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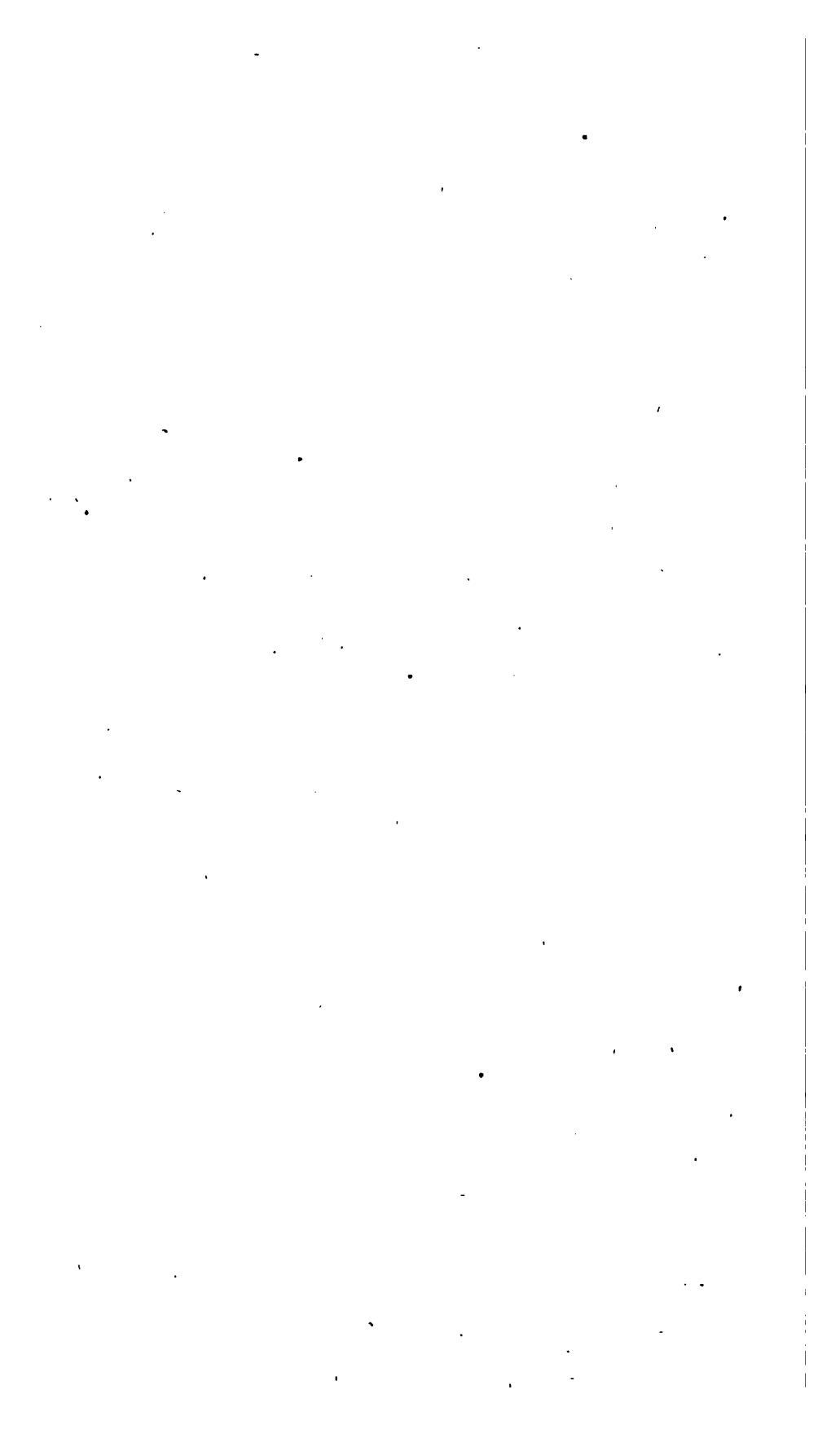












**S K E T C H**  
**OF THE**  
**GEOGRAPHY, POLITICAL ECONOMY,**  
**AND**  
**STATISTICS OF FRANCE,**  
**FROM THE ORIGINAL WORK,**

**IN SEVEN VOLUMES OCTAVO,**

By **PEUCHET**, Member of the Council of Commerce, to the Minister of the Interior, and of several learned Societies—**SONNINI**, of the Society of Agriculture at Paris, and of others; Editor and Continuator of Buffon's Natural History—**DELALAUZE**, Co-operator in Agriculture—**GORSSE**, of the School of Mines, Author of several Prize Memoirs, and Inspector—**AMAURY DUVAL**, Chief of the Bureau of Arts and Sciences, in the Ministry of the Interior, and of several societies—**DUMUYS**, a Man of Letters—**PARMENTIER** and **DEVEUX**, Members of the National Institute—**P. E. HERBIN**, of the Ministry of the Grand Judge, Member of the Statistical and other Societies.

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**DIGESTED, ABRIDGED, AND TRANSLATED,**

**BY JAMES N. TAYLOR,**

**CLERK IN THE TREASURY DEPARTMENT OF THE UNITED STATES.**

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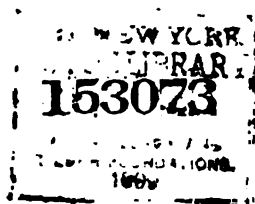
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**1815**



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## PREFACE.

**THE** French revolution has come to its close, and those who had anticipated vast advantages from it, to the human family, have now the opportunity of estimating the reality of their views. Enough has been said of the evils and the consequent miseries endured by the French people throughout the revolution; it is a more pleasing employ to mark the efforts of patriotism, whether real or factitious, for public improvement, and the amelioration of national evils.

If a comparison be instituted on the gain or loss accruing to France, from the revolution, we shall find perhaps the account pretty equally on either side. The nation has no doubt profited much, as to political strength, by the annihilation of those ancient repositories of superstition, the monasteries and convents, and the resumption of their endowments—by the sale and culture of the great royal and seigneurial forests, parks, and hunting grounds, and the subdivision of the large estates, and their transfer to persons possessing capacity, and an inclination zealous for improvement, surpassing that of the former proprietors. As to the equity and excellence of the civil administration, from which the French had promised themselves a new golden age, we do not discover, in the succession of republican administrations, any decisive evidence of such a just and moral practice, either in their exterior or interior relations, as would evince a clear conception of duty, and yield the hope of a fortunate issue.

On the other hand, we perceive that the foreign commerce of the country, though in a flourishing condition previously, and also its military marine, has been utterly annihilated, and its manufactures wholly deranged and disabled, where not actually destroyed—nor does the improved state of agriculture

present an adequate indemnity, being deprived of its auxiliary aid of marine transport.

The transcriber can say with great sincerity, that he derives much pleasure from being able to lay before the public so much useful and amusing matter, as is here presented in a small compass, in relation to a country which has deservedly held a high rank, and with whom these States have always had the most intimate relations, both political and commercial. To the merchant many of these pages will be interesting and instructive—and to the gentlemen of the bar who seek knowledge as the basis of eloquence; but particularly to the statesman, whose duties are commensurate with the globe itself. And in the United States are we not all statesmen, having the privilege, by our votes, of making and unmaking administrations? Surely, in a country where every citizen enjoys a portion of political power, the study of statistics should be one of the most extensive; wherein the various offices of legislation, from the senate of the United States, down to the corporation of an academy, are open to all men of all classes; and, being elected but for short periods, should not the lights of the age be co-extensive with the exercise of the legislative functions?

In forming a compilation like the present, it has judiciously been observed, that the selection of the points was the most difficult part of the business—for in a work of such extent as the original, purporting to treat of the geography, political economy, and statistics of France, and her possessions in different quarters of the globe, it may well be supposed that there is much latitude for the selection of the matter of four hundred pages, and as it may gratify the reader to be informed of the reasons influencing herein, the following observations are made.

The original French work is distinguished by its being formed in a manner rigorously classic, throughout the disposition of all its parts, and certainly this was the best method, on the whole, for the arrangement of materials so various in kind,

though many inconveniences resulted, chiefly as to brevity and condensation of parts: we perceive, for instance, the article of silk treated of under the class of commerce, manufactures, and agriculture, respectively; thus dividing the subject, by throwing it into three separate volumes, though it would appear to more advantage for the student under one general view, independently of the repetitions of the different observations so requisite to give to each head its entire share of elucidation. In the selection, therefore, of what was thought proper to be said on this subject, due regard has been paid to avoid all repetitions, and in giving a form of unity to each article. There are many particulars also, sufficiently interesting to residents of France, which are not so to those at a distance—such may well be rejected.

There appears to be, in many instances, a waste of words in detailing many things that *may* or *might* be done—such speculations have been discarded, with the exception of such as were illustrative of some peculiar subject in hand, or of national character: so, eulogies on individuals are dropped—all sentimental tinsel avoided, as foreign to the subject, as well as articles avowedly incomplete and inconclusive, or too vague to be serviceable to a man of business.

There exists among the French a close union of ideas, in relation to the old and new systems of government—contrasts are continually recalled by discussions on politics and municipal regulations; but with us no such associations exist, or at least they have but slight hold on us; therefore it is, that what relates to the old *regime* is omitted, as well as all the ragged drapery of the revolution, save so much as may keep alive the recollection of its existence, as a trait in the statistics of France. Of manufactures, there being nothing exclusive, or peculiar to France, little notice has been taken, nor would the limits of this volume admit a detail of the history and state of the various establishments of this kind; and also in what regards diplomatic arrangements, being a subject of general notoriety, and

treaties, of which there are multiplied records, the original has been passed over, as well as the ecclesiastical affairs, which with us excite no degree of interest.

The subject of imports and exports has been treated with considerable labour by the French editors, but those who are acquainted with the nature of the French trade, but particularly during the revolution, may judge with what degree of accuracy or success. The maritime commerce of France, carried on with neighbours jealous of their gains, feels every impediment to its legal prosecution; a system of contraband and smuggling is pursued, almost eluding any researches which the proper officers might institute into that subject. The same may be observed of inland trade, through the custom-houses on the frontiers, the officers of which, are either entirely eluded, or feel an interest in suppressing the information they may obtain. Under such circumstances, the attempts at giving accuracy to such estimates, is unavailing, although great pains have been taken, no doubt, to give the best possible, for periods previous to the total subversion of law and order. It has been deemed necessary to say this much, that an expectation may not be entertained of seeing such exactitude herein as the regular trade of the United States hath permitted us to arrive at, through the medium of the custom houses.

There are some long discussions on the sciences generally, which, though interesting in themselves, are not peculiarly French, and therefore are avoided in this volume.

On the other hand, such subjects as seemed particularly interesting to citizens of the United States, have been treated more in detail; as the state of the schools and academies, whose organization had been much attended to in the revolutionary legislation, though it is greatly to be regretted that the actual performance was far outran by the theoretic projects of the times: for, it must be confessed that the germs of literature existed abundantly in France previous to the revolution; and as to the new organization of the schools, and their new denomi-

nations, this is rather an appearance, than a real improvement.

In detailing the antiquities and monuments, all that is particularly interesting is given; it is foreign to the design of this sketch, to detail all the handsome churches and castles of France, so frequently described by the dullest and the most lively travellers. Canals have received the attention they so well deserve.

On the subject of mineral waters, there is much happy illustration; and the subject having excited at all times enquiry amongst ourselves, the transcriptions, on this subject, will be found satisfactory.

In the military branch, all that appertains to the duties of legislation, as the organization of the army, is introduced. In this department of state affairs, the French have certainly surpassed their neighbours, and although their revolutionary conquests have been abandoned, yet few will deny the formidable nature of the military power of France, formed as it is, on the most approved scientific principles, and supplied by a population of great vigor, mental and bodily; yet it was not necessary to introduce the minute details, which serve to swell the bulk of the original work. As to the marine, this part of the public force appears to be under very strict rules and regulations; yet from the little eclat the navy has been able to acquire, it did not seem an interesting or profitable subject to dwell upon.

The most barren part of the work is, perhaps, what relates to the colonies, though fully detailed in the original, yet by no means perfectly. The reason of this is, that France had been deprived of her colonies, and they were no longer of account as a part of her empire; but, as by the late treaty she has regained a part of them, much interesting matter has been introduced thereon, since the first transcript of this sketch was made; and on the African trade, so beneficial to France formerly, there are valuable and satisfactory details.

It should be mentioned here, that in the interval between

the transcribing of these pages and the printing, the last revolutionary spasm, which replaced the Bourbons on the throne of France, took place, accompanied by a treaty which reduces the dominion of that power to its original limits, as laid down in that instrument, inserted in the appendix. The exclusion of such a considerable territory, coming within the limits of our description, might be supposed at the first view to change, materially, the plan of the work; but, in fact, the local and statistical details of countries bordering on France, are, to those who want information thereon, as satisfactory as if actually a part of its dominions, in a relative point of view: for, as all the relations of trade and social intercourse remain much the same as they previously stood, before the cession, curiosity naturally demands a knowledge of the state of the intercourse between countries for many years under a co-sovereignty, though now disunited, and that knowledge they may receive as readily under the actual distribution of matter, as in any other way.

The classification by section, is introduced into this work, originally, for more prompt reference.

From what has been said, it may be truly inferred, that the main object of the compiler was to make the volume instructive and amusing; and also to afford the outline of a plan, on which a similar work might be formed for our own extensive country.

*Washington City, January 10th, 1815.*

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## ADVERTISEMENT

PREFIXED TO THE ORIGINAL WORK.

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§ 1. IT is generally known, that the different works on Statistics, Political Economy, and Geography, which have been heretofore published on France, contain but insufficient and vague information; from which may be naturally inferred the necessity that exists for a work, which presents a picture of all the resources, derived from its territory.

The Statistics of France, as traced on the plan here presented, is a kind of inventory of its products; whether territorial or from its labour, position, topography, and interior arrangements.

It is also necessary that the inhabitants should have a knowledge of the form of government under which they live; as to the manner in which justice is rendered; of the administration of the different branches, as they are regulated; the organization of the land and sea forces; and the progress made in the sciences, belles lettres, and arts; and how public instruction is propagated.

P. E. HERBIN.

FROM

## THE PRELIMINARY DISCOURSE,

BY J. PEUCHET.

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§ 2. IT may be deemed a matter of reproach, that those who are almost strangers to the studies which the difficult science of government demands, endeavour, by means of their natural and physical knowledge, to establish claims to legislative talent—an error of the present age, proceeding from the false doctrine, that it requires but little reading to make a man an able executive officer, a distinguished philosopher, and a capable critic.

§ 3. It has always been remarked, that the men distinguished for great political talents, and for energy of action, were not those most addicted to the study of what are called the exact sciences, as *Ximenes*, *Sully*, or *Chatham*: versed in literature, and the laws, they sought not to appear profound in those which are foreign to the functions of the statesman.

§ 4. Statistics is an important branch of political science. Its aim is to give a knowledge of things of necessary institution, considered in relation to the power and riches of the state.

§ 5. About the beginning of the eighteenth century, *Sir William Petty*, and after him, other calculators, endeavoured to find the number of inhabitants in a country, by fixing the ratio of births, deaths, and marriages, to that of inhabitants. Their observations made in the first instance, on a known population, facilitated their calculations for fixing similar ratios, where the population was unknown; so that the number of inhabitants in a country became known, as soon as it was

ascertained, how many, in a given time, were born, or had died therein.

Some writers have taken, as the base of their calculations, the ratio between the deaths and the inhabitants; but this means soon appeared to be incorrect, and hath been since abandoned, for that by births.

That by marriages is not fitter for the purpose; there being too many moral causes in operation, to increase or diminish the number.

It is on the ratio of births, then, that we must depend, for the amount of the population; but even upon that, opinions are divided.

Some, as the Abbe Expilly, think that in the large cities, as *Lyons*, for example, the ratio of births to the number of inhabitants is, as 1 to 34. Others, as M. Moheau, has reduced it to 1 to 31, for the same cities: and others, as the gentlemen of the academy of sciences, in their memoirs for the years 1783, 1784, 1785, and 1786, have established it as 1 is to 30, for Paris and Versailles; and 1 to 26, for all the other cities, and country.

M. Necker, taking a mean rate, estimates the births to the total population of France as 1 to  $25\frac{1}{2}$ ; an estimate adopted by M. Morgue, in a treatise on the Statistics of Montpellier, and the Department of Herault.

‘These differences in estimate ought not to be attributed to a variation of opinion merely,’ says M. M. A. Barras, in a memoir on political arithmetic, published, in 1790.

‘It is not in political arithmetic, as in metaphysical science, of which the basis is purely ideal, where every one may take his own view of the subject, as it consists chiefly of facts and information, which cannot be known and analysed by every one.’

§6. Among those who have laboured in the researches connected with political arithmetic is M. Michodiere. This magistrate, who made large collections of the labours of the learned, and encouraged their exertions by all the means in his power,

furnished M. M. du Sejour, Condorcet, and De la Place, members of the Academy of Sciences, with statements of population, and other enumerations, which served them in forming the tables, inserted in the Memoirs of the Academy, for the years already mentioned.

§ 7. M. Barras is of opinion that the cities of France may be divided into six different classes, according with the ratio of births to the number of inhabitants. Firstly. The first class is that of cities, wherein the estimate of births to inhabitants is as 1 to 33.

Paris is alone included in this class ; for, in this city, the government, business, pleasures, or commerce, draw many strangers, not natives of it, and who, of course, augment the number of inhabitants, without increasing the births.

Secondly. The second class is that of cities, of which the ratio is 1 to 31: as Lyons, Bordeaux, Toulouse, Marseilles, or Rouen.

Thirdly. The third class, estimated at 1 to 30: as Nantes, Brest, Lille, Rochelle, or Nimes.

Fourthly. The fourth class is that of cities, wherein the ratio is 1 to 29: as Versailles, Metz, Strasburg, Havre, Amiens, Toulon, Rennes, L'Orient, Montpellier, Rochefort, Orleans, Dunkirk, Grenoble, Saint Malo, Nancy, or Abbeville.

Fifthly. The fifth class is that of cities, wherein the estimate gives 1 to 28: as Caen, Besançon, Troyes, Angers, Montauban, Aix, Valenciennes, Dieppe, Tours, Arras, Clermont, Limoges, Bayonne, or Carcassonne.

Sixthly. The sixth class presents those estimated at 1 to 27: as Pau, Mans, Haute-Loire, Poitiers, Bourges, Riom, Arles, Chalons, Sur-Marne, Lumeville, Beauvais, Douai, Moulins, Alençons, Blois, St. Omer, Sedan, &c.

§ 8. Political arithmetic is of use in estimating the produce of industry, as well as the landed income of a country.

Mr. Arthur Young, whose *Travels in France* is the earliest attempt to give a just idea of the farming and the produce thereof, takes this method to ascertain the annual value of the



produce; but as that calculation is made in the work itself, it is merely mentioned here, as a practical application of political arithmetic, to an important part of statistics.

§9. In the reign of Louis the Fourteenth, the intendants were enjoined to make returns of their respective districts; but the business, in general, was imperfectly executed. The name of Lamoignon de Basville, intendant of Languedoc, merits release from this general accusation: such a work could not, at this day, be better executed, than his. His memoir concludes in 1698.

§10. The Count de Boulan Villiers, a man zealous and laborious in the diffusion of useful knowledge, published from the abovementioned returns a neat abridgement, in duodecimo, under the title of *The State of France*. It is a useful collection to consult on the interior situation of France, the number of families, riches, clergy, public revenue, state of agriculture, commerce and the arts, and of the order and amelioration contemplated throughout.

The memoir addressed to the intendants in the name of the king, is placed at the beginning of the work of the Count de Boulanvilliers. We find there no hypothesis, no declamation, no affectation of learning: but we see evinced, a knowledge of business, of men and things, a real public spirit.

§11. About the same time appeared a work on statistics by the Abbe Bois Guilbert. Among much rubbish, there is found in the 'Detail de la France' many useful truths, and the first appearance of an estimate of the riches and consumption of France.

§12. A man of higher merit, the celebrated Marshal Vauban, had, previous to Bois Guilbert, published a book full of statistical researches, on the extent and riches of the kingdom, in productions, men, and industry.

The 'Project of the Royal Tenths,' was the title under which his work appeared. He therein proposes to replace the other imposts, by a tax of a tenth, levied on real estate, the revenues of commerce, and industry.

The development of his plan obliged the learned author to establish many bases of calculations for his statistical statements.

§ 13. He supposes that France then contained 30,000 square leagues (it was before the union of Lorraine to France); he deducts a fifth for rivers, roads, fences, noblemen's seats, heaths and wastes, and other places which are equally unproductive; he makes the remaining 24,000 leagues, subject to the tenth, of which the produce is, according to his statement, 5,600 livres per square league, which, taking the eleventh sheaf, will give 130,400,000 livres, without including the tenth of forests, gardens, pastures. But the author takes into account only a demi-tenth, that is, a twentieth, and reduces it to a round sum of 60,000,000 livres.

After the first proceeds levied in kind, on the crops of grain, wines, fruits, &c. M. Vauban goes on to estimate the proceeds of the tenth of houses in cities and large towns, of mills, salaries, rents, pawns, wages of servants, workmen, and labors of industry.

He states, that at the époque at which he writes, there was in France 800 cities or large towns, of which those taxable, altogether amount to 320,000—as this comprehends the houses of the principal cities, and of Paris, he estimates the rent at 100 francs—so this will give 32 millions, of which the tythe or twentieth, as he calls it, will make 1,600,000 livres.

As to the mills, he states them at two for each square league, necessarily estimated for a population of 550 persons comprised in that space, making 60,000 mills, giving each, on an average, 330 livres of rent, which product, deduction of one-fourth being first made for repairs, makes a total of 14,850,000 livres, of which the twentieth is 742,500 livres. He includes corn-mills only in this calculation.

We will not follow the author, in the enumeration of the other objects, which compose a second basis for the royal tythes; estimated at 15,422,500 livres, formed, as we shall see, from the twentieths of houses, mills, pledges, salaries, rents, pensions of all sorts.

## PRELIMINARY DISCOURSE.

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His third basis, is that of an impost on salt. He advises the suppression of all existing distinctions between the provinces liable to the gabelle.

We shall see his method for ascertaining the proceeds of this sale.

‘Suppose,’ says he, ‘that in each square league there be 550 souls, and that 14 persons consume annually a minot of salt, which is the quantity estimated by the ordonnance; there is then a result of only 40 minots of salt, which, at 18 francs per minot, gives 720 livres; and there being 30,000 square leagues in the kingdom, there is required every year 1,200,000 minots of salt; to this may be added at least 100,000 minots, used in salting meat and butter, and for cattle, which makes at least 1,300,000 minots.

‘I suppose the king, drawing from each minot 18 livres, clear of all expence, for the above mentioned reasons, then this 1,300,000 minots shall be annually a basis of 23,400,000 livres.’

In conclusion, M. Vauban takes for his fourth basis, rents of royal demesnes, houses, indirect imposts (excise) on tea, coffee, brandy, chocolate, &c. These give 18 millions.

He proposes to suppress those temporary imposts (*les aides*). See his remark on the taxation of wine, cider, beer, &c.

‘There is in the kingdom,’ says he, ‘about 30,000 parishes, and in these there are at least 40,000 drinking houses (tipling-houses and dram-shops), each of which, on an average, may consume 15 muids of wine, of cider, or beer, according to the locality. Suppose then the *aides* were suppressed, in lieu thereof a duty of 3 livres, 10 sous, on each muid of wine consumed in public houses, and on cider and beer, in proportion; this would bring in one *liard* per pint, and might bring in a revenue of 2 millions.’

The amount of the four several bases, on which he reposes the system of royal tythes, produces, according to M. Vauban’s calculation, a revenue of 116,822,500 livres.

We have given these details in order to afford a glimpse of

the manner in which, at that time, the territorial riches and industry was estimated; and to give an idea of the plan of royal tithes, which was much spoken of, at the time, and since hath been frequently reproduced, under new forms, titles, and modifications.

§ 14. The species of impost, payable in kind, seems to have been established among the people of antiquity, particularly amongst the Jews.

History also proves, that in the Roman Republic, and in aftertime, the emperors had used it; that the kings of France, of the first and second races, made use of it, as appears by the *capitulaires*.

M. Vauban deemed this mode of taxation the most simple the most facile, the least incommodious to the people, and the best proportioned to the revenue.

§ 15. It may be remarked, on what we have quoted from M. Vauban, that the estimate of his time (the beginning of the last century), and consequently before the union of Lorraine to France, was 30,000 square leagues, though it is known that since the union, the whole extent was only 26,951 leagues, excluding Corsica.

As M. Vauban speaks of leagues, rated by the *Chatelet de Paris*, they are leagues of 25 to a degree, and, consequently, of 2,282 toises. So there can be no difference as to the measure; the error must be in the estimate.

He gives to France 550 souls per square league. The proportion in 1788 was 916; and at this time (1807) 1,120½.

In speaking of manufactures, and the daily wages of a weaver, he reckons it at 12 *sous* per day; it is now at 30 to 36 *sous*, in the country parts; but subsistence is augmented in the same proportion.

The *Project of the Royal Tythes* is a work full of knowledge, and in France, the first, in which statistics and political arithmetic, were applied to the affairs of administration and finance. He made known the state of both, at that time.

§ 16. The author who has treated, in the most extensive way, of

the statistics of the several states of Europe, is the celebrated Busching. His Geography contains, not only the topographic and civil accounts of the countries, but also, with great order and precision, the principal data, to afford an opinion of the riches and strength of each of them.

Busching made known the respective situation, extent, population, culture, products, mines, fisheries, finances, revenues, sea and land forces, which, properly speaking, relates to statistics: but, what he has given respecting France is not equally correct with his accounts of Germany, and the North; as our accounts of the state of our provinces were but imperfect at the time he wrote.

Many writers have drawn from this author the information inserted in their writings, without any acknowledgment; this is a double wrong, because they not only do an act of injustice, but diminish the confidence in what they have said of things, of which they cannot have had the same means of information as Busching.

§ 17. The economists occupied the public attention, about the middle of the last century, with the affairs of administration, and engaged the attention of writers on subjects of commerce, population, and taxes: thus we have seen various dissertations and memoirs on the different branches of political economy; though the most of those writers are employed in supporting or refuting others who have preceded them. Nevertheless, among this crowd, we recognise some, who furnish useful instruction on the sources of riches, on the actual state of agriculture, on navigation, and manufactures. The *Journal Economique*; that of *Arts, Commerce, and Finances*; *The Ephemerides du Citoyen*, are collections which may be consulted, and where good materials may be found for history and statistics, or, as better expressed, of political economy and administration.

§ 18. Among those who, about this time, wrote on this subject, we may observe the Abbe Expilly, whose Dictionary of France and the Gauls, presents an instructive mass of documents on

the economy of France, and to which many writers have had recourse, without naming him, having even copied his errors and his faults, which their ignorance prevented them from perceiving; though they offer themselves to the public as writers of great ability, on such subjects.

We approach the time wherein the government begins to favor these kinds of studies, and diffuse a taste for them.

§19. Already, M. de Gournay, intendant of commerce, felt the necessity of collecting and publishing the facts, which might give a just idea of the wealth of France, and its relations with other powers. He had formed the plan of a Board of Information, as he called it, attached to the Office of Finance; the object of which was, to extract from the correspondence of the intendants, reports of the inspectors of manufactures, memoirs drawn up by the French consuls abroad—in a word, from all the documents received by the government, all that might be deemed useful to the public, on commerce and administration. Those extracts were to have been published, and would have formed an interesting collection of statistical facts.

M. de Gournay formed his board of three men of letters, well informed on the subject of political economy, under the name of Compilers, to whom two assistants were attached.

§ 20. The same project has been renewed lately, and we do not know why it was not adopted. It has been objected, that the information may be always had with the different ministers, and that the prefects, by their statistics, will sufficiently satisfy what is wanted besides.

It is to the population that we should at first direct our attention, and respecting which, government has, at different times, instituted researches.

The first and the most exact taken at that time, is that of M. Messance, printed in 1766; though it is not a complete methodical treatise. The author has therein made an application of political arithmetic, in the estimation of the number of inhabitants of each country, and gives some calculations and statements of deaths and births, for several years.

M. Messance has written to refute the opinion of some economists, who asserted that the population of France had diminished, without having given any proofs other than hypothetical reasonings.

The work of M. Messance is followed by an ingenious essay on the comparative price of corn in England and in France, from 1674 to 1764. The author endeavours to prove that the price has lowered, to the reciprocal advantage of both countries.

We attempt not to give a minute account of all the works, which have successively appeared, on the different branches of political economy, and which treat occasionally of statistics; though we may notice the labors of the Academy of Sciences, in instructing the persons engaged in ascertaining the number of births in France. The researches of M. Necker, on this subject, are well known; the results are inserted in his *Treatise on the Administration of the Finances*. But we cannot pass over in silence a valuable work of M. de Pammelles, lieutenant colonel of the 5th regiment, of the staff, printed in 1789, under this title, *Statement of the Population of all the Provinces of France, and of the Proportions, by different Accounts, of Deaths and Marriages, during Ten Years, according to the Register of each Commune*.

§ 21. In this memoir the author has in view, to establish the impossibility of procuring substitutes for the militia, by a contribution in money employed to that end.

He enables us to perceive that such enlistments are insufficient to recruit the army; in doing this, he enters into explanations, wherein statistics are judiciously applied to military science.

This memoir of Pommelle, is one of the best publications on this subject; it contains many authentic facts and observations, on the articles discussed.

§ 22. The national assembly instituted enquiries on the population of France. The numbers were exaggerated in the first returns, because of the representation being fixed agreea-

bly to the existing number of electors each district gave, in the largest possible number. In the enumeration which took place under the succeeding assembly, they went into the opposite extreme; and the fear of being accused of exaggerating the numbers of inhabitants, induced the mayors of cities to diminish the accounts of the population, as much as possible.

These errors have been since rectified, in the enumerations made by the prefects, in so much that the number is ascertained with sufficient exactitude. The last, made for the purpose of diminishing the number of justices, completed in 1802, is the most exact.

§ 23. The work of M. Beaufort, made its appearance in 1789, under the title of *The political Pocketbook*, in 49 parts, containing the political constitutions of states, their population, land and sea forces, revenues, expences, debts, agriculture, productions of the soil, of trade, of manufactures, navigation, coinage, &c. and the relations existing with foreign powers.

This work has many faults, though in some respects it is useful. It has not noted precisely, the various objects of industry, in the department of trade, the valuation of money, or the statement of territorial extent.

M. Beaufort having been obliged to draw from older compilations, those statements, of course, ceased to be authentic, for the time in which he wrote: he appears deficient in the knowledge of commerce and navigation. Those accustomed to those views, readily perceive the consequences resulting from such inaccuracy, which derogates from the character of the work.

Notwithstanding, the *Pocketbook* is an essay, pretty well formed, and would have had superior merit, if the author had had the advantage of better materials; yet it had but little success at the time, and drew but little attention; the only things that appeared, or were read, was the statements of Busching, inserted in '*The Prussian Monarchy*' of Mirabeau, and formed into tables.

§ 24. M. Necker had in some measure awakened the atten-



tion of writers, to these subjects, and put them in due arrangement, in his work, on the 'Administration of the Finances.'

The rapid sale of that work is known, and the avidity with which it was read throughout Europe: it was not in the vague style of the economists, it contained information of a useful kind, facts, and a correct statement of the wealth of France. The author had an intimate knowledge of the subject, and more of the needful data, and calculating spirit, than any of those, who, for fifty years past would, in speaking of him, desire to attract some notice to themselves.

His book has been criticised, and the different parts analysed; some tried to imitate him—to surpass him; he was abused abroad, in the offices, in the gazettes, for having given a treatise, wherein facts might be met by facts; and the science profited by the discussion. The book of M. Necker is still the only one that can be consulted, on the economy of France for the epoch of its appearance.

There is found in it a view of the territorial extent of France, population, births, produce, and the commerce of each cominane; the statement of the revenue and expence of the state, foreign commerce, and much other instruction of a useful kind, which is not to be found any where else.

M. Necker had also instituted a board for collecting information on those subjects, the powers of which have been transferred subsequently to that known by the name of *The Balance of Commerce*, attached to the ministry of the interior, but in a narrower extent than it was placed on at first, by Necker.

We shall see presently that there is another board, attached to the same minister, for departmental statistics, and whose object is to digest, from the returns of the prefects, those statements which the minister is desirous of procuring or preserving.

§ 25. In addition to the labours of the constituent assembly, in extending a taste for this science, about this time appeared a writer on political economy, M. Bonvallet Desbrosses, formerly treasurer of the marine and colonies at Rochelle; he

had published a considerable work on the same subject, entitled *The Wealth and Resources of France*. He has strove to give a sketch of the situation of the frontier, rivers, seaports, customs, extent, species of culture, population, &c.

If this work was founded on correct data, the order, precision, and arrangement, would render it superior to any other similar performance; but the greatest part of the calculations, estimates, and the results, are made from hypothetic views, so that, in practical affairs, no reliance can be placed on this writer.

The work by its nature appertains to the business of political economy, and we cannot deny to its author, a knowledge of the subject, and just views: but, it is far from being a book fit for executive administration. Under the writer's hand every thing is easy; but in practice, obstacles, difficulties unforeseen, errors of calculation are discovered, and after much labour, it is often found that we have been decoyed by a chimaera, which vanishes in practical operations.

§ 26. M. Tolosan has given in his essay, an estimate of the wealth of France, in the produce of agriculture, and in manufactures; he unfolds many views of commercial administration, with a correctness of thought, and simplicity of expression, requisite to those engaged in public business.

§ 27. After the above, M. Lavoisier compiled for the use of the constituent assembly, one of the most approved views of the territorial wealth and revenue of France. That learned man gave to his work that character of exactitude, common to his writings.

The Universal Dictionary of commercial geography, expanded the bounds of statistical knowledge, though it gives no details in the civil or military line, nor of laws, manners, literature and arts: but, all that relates to the national industry and wealth, are minutely examined

§ 28. At the same time, M. Bottin, secretary of the administration of the department of the Lower Rhine, and now of the prefecture of the north, gave, under the title of *The*

*Annual Report for the Lower Rhine*, the first departmental statistics that we know of. It is a model of precision, learning and talent, in its line. It has been augmented and improved by the author, in the two following years, and he has also, given since, a report on *the Department of the North*.

M. Bottin's work is a proof that it is always an advantage to letters, and general knowledge, that the administration should be composed of men, industrious, well informed, and enlightened; unhappily, we know not why, in France, they are often occupied by a different species of men, sometimes under one pretext, sometimes another.

§ 29. We have had since the above, several others on the same plan: and first, the central administrations are obliged to report annually on the state of their respective departments, give frequently useful details of agriculture, manufactures, commerce, &c. But the most interesting pieces of this kind, were those published respectively by some individual member, under his own name.

M. Francois (de Neufchateau) during his ministry of the interior, had encouraged those productions, and they have been still more so, under his successors. He enjoined the department authorities to give him all the information possible, on cultivation, trade, manufactures, roads and canals: amongst many that appeared of little account, in consequence of this injunction, the essay on the department of L'Indre, in the year 8, of which the credit is allowed to M. Greire, one of the members of the council general of that department, is one of the best. That of M. Verneilh, on the department of La Corrèze, may be classed nearly in the same rank. The essay by M. Daly, counsellor, &c. is another valuable performance in the same way. To these may be added, the work of M. Peuchet, published under the name of M. Eichhoff, on the four departments on the left bank of the Rhine.

§ 30. When Lucien Bonaparte became minister of the interior, he gave great attention to statistics; he particularly applied himself to those of France; the prefects of departments

were written to; and he invited the literati of the Institute to concur with him. He formed a board for statistics, the direction of which he gave to M. Duquesnoy, known as the writer of an excellent tract, on different branches of political economy, and also by his translation of the *Statistics of Germany*, by Hoeck.

M. Duquesnoy has neglected nothing in fulfilment of the minister's vast plan. He still devotes himself to the execution of the same purposes: he is of opinion that such works require maturity, and that the earlier essays of prefects, as well as some able productions, from the literati, are insufficient; they must be examined and compared, still expecting more perfect knowledge of the details, and that nothing may be uncertain in the splendid representation of the fortune and power of the French empire.

The system he has adopted appears to be simple, and conformable to the object: all the details obtained from the prefects are deprived of extraneous matter; they are then classed under general heads, in the form of tables, and thus present, at a view, the proceeds of each particular kind of national riches. This method, which serves very well for a compilation, made under the eye of administration, which can be sure of its correctness, will not suit so well in other cases, where an acquaintance with the author's sentiments, from his proofs, views, and calculations, is required.

§31. M. Chaptal was of opinion, that, to afford the prefects a model, it would be useful to make a draft, suitable for the skeleton of their reports: this was on his entrance to the ministry. It was executed, and addressed to the prefects and those gentlemen known to be engaged in such pursuits, by M. Peuchet, without comprising sundry matters, which have been since taken into consideration; by which statistics have been transformed into an universal science.

Few of the prefects have followed the methods traced out: it was too strict, and required more literature than they generally possessed. However, much information has been obtained.

§ 32. But, in order to enable the reader to judge of the care and attention bestowed on this work, we will go into some specification of the plan, its division, and the articles as treated by different writers.

#### GENERAL PLAN.

§ 33. The first part of this treatise is intended to make known the *Physical or Natural Topography*, and the *Territorial and Political Divisions* of France. In the first are included the local situation, limits, climate, mountains, rivers, and canals. It is proposed, that in treating those subjects immediately connected with *Natural Geography*, that it shall be only as far as they have relation to statistics: and that all developement is to be avoided, as to the condition and variety of soil. It is always in some useful point of view, that we endeavor to place those things that serve to expose the sources of the national prosperity and riches.

§ 34. After the topographic description of a country, the first information we are induced to seek for, is the number of inhabitants: we consider the population of France, as to its former territory, and its present extent. The different parts of the work are thus apportioned: the statements of extent, old and new; births, deaths, marriages, sexes, ages, and military levies; and to these details have been added, considerations on the causes of the mortality in different seasons; a table offering a view of all the births, marriages, and deaths, for the year 9, throughout France.

§ 35. To M. Herbin we are indebted for the topography and population. The materials at his disposal, in his labors for the minister of justice, have given him an opportunity of drawing from the best sources, inasmuch that the bases he assumes, and the results he deduces, may be regarded as the most exact possible.

The knowledge of soil, its varieties, fertility, and different modes of culture, naturally follow the topography. This part

has been undertaken by M. Sonnini. He examines the extent of ground, as valued in each department: the different beds of earth, vegetable, or productive otherwise, which he finds there; their produce, and what they might produce; in fine, every information relative to the soil, its cultivation, and produce.

§ 36. After the exposition of the different soils, and the produce, it is required that some notice be taken of the mode of cultivation. This is effected in the chapter on Agriculture, drawn up by M. Delalauze, who has applied himself to this subject. He has indicated the practice of each department, and the good or bad effects arising therefrom.

§ 37. M. Sonnini gives the article on *Productions*. Under this head is arranged, productions, *animal, vegetable, and mineral*. In the first class is given those of grain, wines, hemp, flax, and woods.

He begins with bread-corns, mentions the places of their growth, the quantity of them grown, the proportion in commerce to the maintenance of men and animals, and the consumption of the factories. The same plan is followed in treating of the plants for forage, oil, dyeing, fruit-trees, and flowers; and throughout the whole, the defects in the cultivation are indicated and improvements suggested. This chapter is concluded by the enumeration of the different kinds of forest trees, that grow in France, their uses, the space of ground they occupy, and the quantity cut down. The attention of government is called to the destruction of many forests, the waste in all, and the inconveniences resulting therefrom.

In treating of the *animal productions*, the author reviews all the kinds raised throughout France; their qualities, number, the uses derived from each, their products, or their returns of raw materials: and those kinds, called wild animals, which furnish objects of consumption or industry, as of leather, silk, wax, honey, &c. Indeed, M. Sonnini has given the most satisfactory details on the silk produced, on the qualities, the disposition of it, in the manufactures, and the amount consumed at home and exported abroad.

The *mineral* productions make a part of the riches of France, less considerable, to be sure, than those that follow; but they nevertheless merit a distinguished place in the statement of her resources. They have been treated of by M. Gorse, distinguished in that line of science. He has attentively inspected this branch, as it now is, and as it was formerly situated. He has made known:—1. The geographical position—2. Their geological scite—3. The means of bringing them into activity. In the tables, the positions of the worked mines are given, and of others that may be worked; and, finally, in estimating the amount, they add to the circulation, and the numbers employed on them.

§ 38. M. Pouchet has given an account of the manufactures formed from domestic productions; which is followed by another from M. Herbin, presenting an analytical table of the places where each description of goods is made respectively.

§ 39. Commerce, which binds a community together by mutual supplies, affording reciprocal advantages, is one of the most important parts of Statistics, is naturally placed after the considerations on the soil and manufactures. In treating of *interior commerce*, we have first noticed, the articles it affords, and the different kinds of commodities which are furnished by the cities and departments, according to local position and peculiar crafts. The *exterior commerce*, affords a detail of our exportations, and of what we draw from abroad; the trade which is taken into view in the formation of a *balance*. The *colonial commerce*, forms a distinct division; being out of the interior class; and yet, being followed by the French exclusively, and on the property and estates of the French, it is the main support of the marine, and, of course, one of the principal divisions of a statistical work. *Navigation* is next considered; in its various relations.

§ 40. The *Bank of France*, the *weight*, *measures*, and *monies*, as commercial means, conclude this section of the work.

The system of *inland navigation*, has been amply treated:—

1. In considerations on the general and interior navigation of

France—3. The system of natural navigation—4. The artificial system by canals—5. The courses of the navigable rivers of France—6. The courses of canals, executed and projected; finally, some details on the keeping and repair of canals, &c.

§ 42. Until this time, the science of diplomacy, has been deemed separate and distinct from the statistics of states. But the impossibility of conceiving a just idea of the resources of a nation, without the knowledge of its obligations and its rights, in the actual system of Europe, necessarily induces us to the acquisition of this science. This part has been treated of in two sections:—1. Of the different kinds of agents from abroad, political and commercial—2. Those of France residing abroad.

§ 43. *Public instruction*, of which M. Annury Duval, (one of the Chiefs de Bureau), has given the detail, is one of the most interesting branches of Statistics: so an extent, proportionate to its importance, has been given. He begins with observations on public instruction, examines the arrangements formed in the year *Four*, which have served for a basis to that which has been since given, and put in practice in the year *Ten*.

Having given an account of the primary schools, secondary schools, and lycées, Mr. Annury passes to the *prytæum*, the special schools, those of public service; and concludes with some general observations on the means of completing the general system of national instruction. There is included a review of the libraries, galleries of natural history, observatories, museums, theatres, &c. To these are added a sketch of learned societies, distinguished in the arts and sciences; noting such individuals as are celebrated in each branch; and general observations on the actual state of science in France.

§ 44. *Public monuments*, are a consequence of civilisation, and the luxury of powerful nations. They accompany the arts, and afford them exercise. They have of course been attended to, in their turn. This subject has been treated of by M. Dumays, who commences with those existing at the time of the Roman conquests, and thence descends to the present time.

§ 45. *Mysæral waters*: their description is from the pen of



*Messieurs Parmentier and Doyeux*, preceded by some general reflections.

§ 46. *Religion*, as the basis of morals, is properly placed in the course of instruction, and should have its due rank in the detail of the process of public instruction. This article, by M. Herbin, gives an exposition of the law thereon, and its peculiar regulations.

§ 47. *The government*, or political order, established in a state, for maintaining safety, liberty, and property within, and respect and independence abroad, comprises the constitutional laws, those of civil administration and of police. Herein are treated the arrangement and functions of the *civil* administration. The *military* administration and discipline, are treated in a minute and satisfactory manner, including the *legion of honor*. The *maritime* administration, also, in satisfactory detail.

§ 48. The preservation, management, and reproduction of forests, is an important branch of political economy: M. Herbin has added some excellent information on this head. The *topographical description*, of the one hundred and eight departments of France, is on an arrangement entirely original, and drawn by that gentleman from the materials of which he was officially in possession.

The *colonial* subjects are treated of under three heads:—

1. The French colonies in America—2. In Africa—3. In India.

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# FRENCH STATISTICS.

## GENERAL TOPOGRAPHY.

### SITUATION AND LIMITS.

§ 1. FRANCE is situated between the 43<sup>th</sup> and 45<sup>th</sup> degrees of longitude, from the meridian of Ferree, and between the 48<sup>th</sup> and 52<sup>th</sup> degrees of north latitude.

Its length from north to south, from the Meuse and Wall to the frontiers of Catalonia, in Spain, is 150 myriameters (300 leagues); and its breadth, from east to west, from Strasbourg to Brest, is 125 myriameters (250 leagues).

Its limits are, on the north, the English channel, and the Batavian republic; on the N. E. the Rhine, which divides it from Germany; on the E. Mount Jura, which divides it from Switzerland; on the S. E. the Alps, which separate it from Italy; on the S. the Mediterranean Sea, and Pyrenean Mountains, which separate it from Spain; and on the west the ocean.

So no situation is more favorable than that of France: placed nearly in the centre of Europe, it is more frequented than any other, by travellers. It borders on the most considerable states, and its seas afford access to regions the most remote.

### CLIMATE.

§ 2. France, comprehending a vast extent of country, does not present, in all its parts, an equal temperature; yet the existing differences are not very considerable: no part is sub-

ject to the extremes of heat and cold, insomuch that it is near the truth to say, that the climate of France is a mild one, that the heat relaxes not the human system, nor does the cold render it dull and inactive.

In order to give a precise idea of the variations of the French climate, it is necessary to examine it in different points. We are about to give the sum of many meteorological remarks, made with the greatest care, by skilful persons. The mean term only is noted, and we take no account of those rare occurrences, which have appeared in some particular seasons.

It is known, that, by the temperature of a country, is meant the result of all the physical causes, dependant on the atmosphere, co-operating on the productions of the soil, the state of vegetation, the physical condition of men and animals, and even on the morals of the people. These details are preceded by a general table of the latitudes and longitudes, from the meridian of Ferroe, with the rising and the setting of the sun, in the longest days of the year.

# LONGITUDE AND LATITUDE.

25

## Longitudes and Latitudes of Chief Places.

| DEPARTMENTS.      | CHIEF PLACES | LONGITUDE AND LATITUDE |          | SUN'S RISING AND SETTING |         |
|-------------------|--------------|------------------------|----------|--------------------------|---------|
|                   |              | LONGITUDE              | LATITUDE | RISING                   | SETTING |
|                   |              | D. M. S.               | D. M. S. | H. M.                    | H. M.   |
| Alps. H. . .      | Gap . .      | 23 44 57               | 44 33 50 | 4 16                     | 7 44    |
| Alps. Mar . .     | Nice . .     | 21 57                  | 43 41 54 | 4 19                     | 7 41    |
| Bouches du Rh.    | Marseilles . | 23 2                   | 43 17    | 4 20                     | 7 40    |
| Calvados . . .    | Caen . .     | 17 18                  | 49 11 10 | 3 55                     | 8 5     |
| Cote d'Or . . .   | Dijon . .    | 22 42                  | 47 19 22 | 4 4                      | 7 56    |
| Doubs . . . .     | Besancon .   | 23 43                  | 47 13 45 | 4 4                      | 7 56    |
| Dyle . . . . .    | Brussels .   | 22 2                   | 50 51    | 3 47                     | 8 13    |
| Escaut . . . .    | Ghent . .    | 21 35                  | 51 24    | 3 44                     | 8 16    |
| Forets . . . .    | Luxembourg   | 23 46                  | 49 39    | 3 52                     | 8 8     |
| Garonne, H. . .   | Toulouse .   | 20 54                  | 43 35 54 | 4 19                     | 7 41    |
| Gironde . . . .   | Bordeaux .   | 17 5                   | 44 50 18 | 4 15                     | 7 45    |
| Golo, Cors. . .   | Bastia . .   | 27 12                  | 42 35    | 4 23                     | 7 37    |
| Herault . . . .   | Montpellier  | 21 33                  | 43 36 33 | 4 19                     | 7 41    |
| Isere . . . . .   | Grenoble .   | 23 24                  | 45 11 49 | 4 13                     | 7 47    |
| Leman . . . . .   | Geneva . .   | 24 15                  | 46 12    | 4 8                      | 7 52    |
| Liamonc, Cors.    | Ajaccio . .  | 26 28                  | 41 54    | 4 25                     | 7 35    |
| Loire, H. . . .   | Le Puy . .   | 21 33 21               | 45 25 2  | 4 14                     | 7 46    |
| Loire, Inf. . . . | Nantes . .   | 16 6 12                | 47 13 17 | 4 4                      | 7 56    |
| Loiret . . . . .  | Orleans . .  | 19 34                  | 47 54 4  | 4 2                      | 7 58    |
| Lys . . . . .     | Bruges . .   | 23 33 30               | 51 12 20 | 3 45                     | 8 15    |
| Meurthe . . . .   | Nancy . .    | 23 49                  | 48 41 28 | 3 58                     | 8 2     |
| Meuse, Inf. . . . | Maestricht   | 23 23                  | 50 49    | 3 47                     | 8 13    |
| Mont-Tonnerre     | Mayence . .  | 26                     | 49 54    | 3 51                     | 8 9     |
| Moselle . . . .   | Metz . . .   | 23 51                  | 49 7     | 3 55                     | 8 5     |
| Ourthe . . . . .  | Liege . . .  | 23 15                  | 50 39    | 3 48                     | 8 12    |
| Puydedome . . .   | Clermont . . | 20 45                  | 45 46 45 | 4 10                     | 7 50    |
| Rhine Lower . .   | Strasbourg   | 25 26                  | 48 34 35 | 3 59                     | 8 1     |
| Rhine & Moselle   | Coblentz . . | 25 14                  | 50 22    | 3 49                     | 8 11    |
| Roer . . . . .    | Aix-la-chap. | 23 55                  | 51 15    | 3 45                     | 8 15    |
| Seine . . . . .   | Paris . . .  | 20                     | 48 50 12 | 3 57                     | 8 3     |
| Seine, Inf. . . . | Rouen . . .  | 18 45                  | 49 26 43 | 3 54                     | 8 6     |
| Var . . . . .     | Toulon . .   | 23 37                  | 43 7 24  | 4 21                     | 7 39    |

§ 3. Beginning with the centre of France, the climate of Paris is among the most temperate and agreeable of any. If we may judge by the variety and precocity of the fruits growing in the vicinage of this great city, we shall attribute much to the salubrity of its atmosphere; tho' this luxury in vegetation is the result of much labor and ingenuity. Here is none of that rigorous cold, felt in the higher latitudes, or in the vicinage of high chains of mountains; snow and hail are not so common, nor so abundant; nor is there experienced those excessive heats which desiccate the soil of the southern departments: the winds are not so violent, as those near the sea; hurricanes are rarely felt; it is even common to see them dissipated in their approach to Paris: the rains fall equally, not in torrents, as in the south.

The mean term of a long course of meteorological observations made at Paris, gives for the greatest heat 27.0 deg. of the graduation of Reaumur: for the lowest 7.0 degrees, for the mean temperature 9.6. The greatest height of the barometer has been, during the same time, 28 inches 5.7 lines; the least 27.3.3 and the mean 28 inches. The quantity of rain which fell in the year (mean) was 20 inches 2.4 lines. It rained during 164 days of each year; and the prevailing winds were from S. W. to N. E.

§ 4. In the North, the chief place of the department of the Dyle, Brussels, which is about two leagues in circuit, appears like an amphitheatre in the bosom of a rising ground, on the river Senne, which in passing it, forms many islands. The eminence, which serves for a base, is cut up by ravines, and a wide and deep passage, in which is found near fifty ponds of different sizes. It is natural to attribute to those collections of stagnant waters, those damp unhealthy vapors which are prevalent in the neighborhood; although the bread corns, and garden stuffs, as well as the fruit trees, which grow there, evince the fertility of the soil. In general, the three summer months are warm and moist at Brussels, and the remainder more or less cold, with a humid atmosphere, to which may be attri-

buted their most common diseases. The months of February, March, April, and May, give the greatest mortality; and epidemics are severer at the bottom, than on the higher parts of the hill. It has been observed, that sickness is rare, when fruit is abundant.

The mean of eight years' observation has given the following results:

|                                     |                     |           |
|-------------------------------------|---------------------|-----------|
| Greatest heat                       | . . . . .           | 25.5 deg. |
| Least heat                          | . . . . .           | 8.1       |
| Mean heat                           | . . . . .           | 9.5       |
| Greatest elevation of the barometer | 28 inches 7.3 lines |           |
| Least elevation                     | . . . . . 27        | 2.11      |
| Mean elevation                      | . . . . . 27        | 11.11     |
| Prevailing winds S. W. to W.        |                     |           |

Rainy days, 151.

§ 5. Dunkirk, in the department of the North, the latitude of which is 51 deg. 2 min. 4 sec. the greatest heat, in a common year, is 23.2 deg. the least is 6.6; ordinarily of 8.7. The greatest elevation of mercury, in the barometer, is 28 inches 3 lines: the least is 27 inches 1.4 lines; and the common or mean is 28 inches 1.10 lines. There are 126 days of rain, and the prevailing wind is S. E.

§ 6. The mean results of seven years' observations, at Metz, département of the Moselle, are,

|                                      |           |           |
|--------------------------------------|-----------|-----------|
| Greatest heat                        | . . . . . | 26.7 deg. |
| Least do.                            | . . . . . | 7.4       |
| Mean do.                             | . . . . . | 10.8      |
| Greatest elevation of the barometer, | . . . . . | 28.0.9    |
| Least do.                            | . . . . . | 26.11.2   |
| Mean do.                             | . . . . . | 27.7.3    |
| Rain fallen in 144 days              | . . . . . | 27.3.0    |

Wind S. W. chiefly.

§ 7. In the east of France, the greatest heat is at Nancy, département De la Meurthe, and is, in a common year, 24.3 deg. the least 9.5; mean 8.9; the greatest elevation of the mercury is 27 inches 10.10 lines; the least 26 inches 8.5 lines; and the

mean of 27 inches 4.2 lines. It rains during 145 days, and the prevailing winds are N. W. to S. W.

§ 8. Besancon, department of Doubs, offers nearly the same results as Nancy: 24.5 for the greatest heat; 7.10 for the least; 9.0 for the least; and the prevailing wind W.

§ 9. In Mont Lion, formerly Mont Dauphin, one of the highest points in France, situated in the department of the High Alps, and in 45 deg. 20 min. latitude, the thermometer indicates the highest degree of heat to be 27.0 deg. the least at 8.7, the mean 7.9; the greatest elevation of the barometer 25 inches 30 lines; its lowest, 23.10.0 lines; and its mean 24 inches 8.7 lines; days of rain and snow, 96; and the prevailing winds are of the S. W.

§ 10. If we pass to the west, Brest, in the department of Finistere, and in latitude 48.22.25, has for its highest heat, 24.0 deg. 6.0 for the least, and 9.8 for the mean; the mean elevation of the barometer is about 28 inches 3 lines; days of rain 150; and the wind prevailing is the N. E.

In the south of France, the temperature is mild; the heat augments towards the east; but is not so scorching as in some other places not far distant; in return, the piercing blasts of winter are not felt there, as in the north.

§ 11. Bourdeaux, in the department of La Gironde, built on the left bank of the river Garonne, and elevated about 20 toises above the level of the sea: the following is the mean of several years' observations—

|                                     |           |           |
|-------------------------------------|-----------|-----------|
| Greatest heat                       | . . . . . | 26.8 deg. |
| Least                               | . . . . . | 3.0       |
| Mean                                | . . . . . | 11.1      |
| Greatest elevation of the barometer | . . . . . | 28.6.3    |
| Least                               | . . . . . | 27.4.2    |
| Mean                                | . . . . . | 28.0.10   |
| Rain                                | . . . . . | 24.3.7    |
| Rainy days, 150                     |           |           |
| Prevailing winds, N. W. and W.      |           |           |



## METEOROLOGICAL OBSERVATIONS. 29

Below the department of Gironde is that of Des Landes, in which a higher degree of heat has admitted of the cultivation, in the open field, of the *Levant cotton*, the *herbaceous cotton* of botanists.

§ 12. Farther to the east, and about the middle of the southern district of France, the observations made at Montpellier, give the following mean results.

|                                 |             |
|---------------------------------|-------------|
| Greatest heat                   | 23.1 deg.   |
| Least                           | 3.7         |
| Mean                            | 12.2        |
| Greatest elevation of barometer | 28.5.8      |
| Least                           | 27.5.5      |
| Mean                            | 28          |
| Quantity of rain                | 27.8.0      |
| Rainy days                      | 74          |
| Winds                           | N. to N. W. |

§ 13. At Marseilles, department of the mouths of the Rhone, as in all the southern parts of the *ci-devant* Provence, the heat is intense, and of long continuance; for from the middle of *Prarial* to the end of *Fructidor* the thermometer is generally above 24 degrees. In the low grounds, with a southern exposure, and guarded by mountains from the north wind, the heat is still greater.

The cold is also felt sometimes with severity: the 4th and 5th January, 1768, at 7 h. 45 m. A. M. the mercury in the thermometer was 9 degrees below the freezing point, which was the greatest cold known in the memory of man: for it is not ascertained whether that of 1709 was equally severe, and it was but of short duration: after the day following it, ice ceased to be seen in the city, the air became gradually mild, and the almond trees were in flower before the end of the month. But great variations of temperature are rare at Marseilles, as we shall see by the following result of nine years observations, during which, the highest degree of heat was of 25.3 degrees, the least 3.1, and the mean 11.8; the greatest elevation of the mercury 28 inches, 7.2 lines, the least 27 inches 3.7 lines, the

Rhone, Rhine, Meuse, Escaut, Seine, Loire, and Garonne. The first two wash the eastern part, and discharge the first into the Mediterranean, and the last into the North Sea: the Meuse and L'Escaut watering the north, fall also into the North Sea: the Seine and Loire run through the centre, westward, and discharge the first into the English Channel, the second into the ocean: the Garonne, watering the south, falls into the ocean.

Besides those rivers, may be mentioned others of considerable size: as, the Saone, which, running west, falls into the Rhone; the Charente, which, after traversing the west, falls into the ocean; the Marne, which, watering the eastern interior, runs westward to the Seine; the Dordogne, running through the south, and falling into the Garonne; the Somme runs northward, and falls into the English Channel; the L'Oise, L'Eure, Lot, Gors, Drome, &c.

#### CANALS.

§ 19. The rivers give great advantages to trade, by facilities of transport, and those advantages have been greatly augmented by the canals constructed towards the same end. The most remarkable are—that of the south, which connects the Mediterranean with the ocean, denominated *The Canal of Languedoc*: that of *Briare and Orleans*, so called from its joining the Seine to the Loire by two branches—one ending at Orleans, the other at Briare; the eastern branch, known by the name of *Cote d'Or*, or *Bourgogne*, opens a communication between the Yonne and the Saone; that of the centre, formerly called the canal of *Charolais*, opening a communication between the Saone and the Loire, &c.

#### LAKES.

§ 20. The lake of Geneva, of which its ancient title is revived, lake *Leman*, situated in the department of that name, in length about 20 leagues (100 kilometres), and its greatest breadth 4 leagues (20 kilometres); the Rhone passes through

it, and its limpid waters contain abundance of fish, in particular trout of a great size: the lake D'Annecy, in the department of Mont Blanc, in length 4 leagues, (20 kilometres) and greatest breadth a little more than half a league, (2 kilometres) it is very deep: the Bourget, of still smaller size: D'Allegre, on the summit of a mountain, in the department of Puy de Dome &c. &c.

## MOUNTAINS.

§ 21. France has on ~~its~~<sup>her</sup> borders, on the east, the Alps: this chain traverses the three departments from which they take their name of Maritime Alps, Lower Alps, and Higher Alps; it separates France from Italy, and forms the limits with Helvetia.

Where the Alps appear to be piled one upon another, is the greatest elevation, some of the summits being 2,700 toises, (5,260 metres) above the level of the sea.

A branch of the Alps, of lesser height, rising in the department of the Leman, runs into the department of Jura, Upper Saone, Doubs, Upper Rhine, la Meurthe, Moselle, Sarre, and Mont Tonnerre; another branch rises in the department La Drome, traverses that of the Ardeche, Loire, Rhone, Saone, and Loire and Cote d'Or to Dijon. From this some ramifications proceed through Cantal and Puy de Dome, by the south-west, through the Upper Loire and Lozere, and is joined to the Pyrenean mountains, which form the natural limits between France and Spain.

The chain of the Pyrenees extends along the south of France, from Port Vendres, on the Mediterranean, to the ocean, on the limits of Spain. The greatest breadth is 40 leagues (200 kilometres), and its highest pinnacle 1,442 toises (2,808 metres) above the sea level.

## POPULATION OF FRANCE.

§ 22. This article ought to be examined under a variety of views: as,

1. Its aggregate.
2. The relative proportions, between the different classes of society.
3. Its proportion to the extent of territory.
4. The proportions of births, marriages, deaths, sexes, different ages, and military levies.

M. Necker was the first that fixed the rate of population, by his researches, the details of which have been published. Mirabeau, senior, reckoned the population of France, in 1754, at 18 millions and 107 individuals. The Abbe Expilly estimated it, in 1772, at 22 millions 14,357 inhabitants. Buffon, at the same time, gives it at 21 million 672,777, individuals. The estimate of M. Necker in 1785, amounted to 24 millions 676,000. M. Bonvallet Desbrosses estimates it at 27 millions 957,267; and the committee of the constituent assembly estimates at 28,896,000, but by a second report, it is reduced to 26,863,074.

The register (Bureau de Cadastre) published in detail by the Abbe Prony, estimates the population of France in the year 6, including Corsica, at 31,123,218 souls: viz.

|  |           |            |
|--|-----------|------------|
| Ancient France   | - - - -   | 26,048,254 |
| Avignon, Savoy, Nice, Porentruy, Bel-<br>gium, and Genoa | - - - - } | 3,511,055  |
| Country between the Rhine and Moselle                    |           | 1,563,909  |

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**Total 31,123,218**

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Depere, in his statement to the council of five hundred, makes it thus, viz.:

|  |                   |
|--|-------------------|
| Ancient France   | 28,810,594        |
| Avignon, Savoy, Nice, Porentruy, Belgium,<br>and Genoa | 3,094,000         |
| Geneva   | 33,000            |
| Departments on the left bank of the Rhine              | 1,564,000         |
| Total,   | <u>33,501,694</u> |

The estimate of estates, returned in the years 9 and 10, to the ministers of justice and interior, by the prefects, and conformable to which the arrangement of justices of the peace took place, and fixing the number of members of electoral colleges, for arrondissements and departments, agreeably to their population, and the dispositions of the senatus consultum of the 4th August, 1802: this gives a general population of 33,111,962 souls; but to this amount is to be added 1,864,351 souls, by the union of Piedmont and Elba, which gives a total of 34,976,313 souls.

It is possible, and even probable, that there may be some difference between this and the real sum of the inhabitants of France; but it is the best established that we have yet had. It will be easy to rectify it by the ingenious tables on the progression of population, formed by Duquesnoy, of the board of statistics, in the ministry of the interior, and which the prefects are required to fill up, and to send quarterly to the minister.

#### *Respective numbers of each class of society.*

§ 23. Economists have applied themselves very industriously to calculations that might give some information on this important subject, but it does not appear that it has occupied the attention of government, though its object is important.

We find, however, that in a statement prepared by a committee of the constituent assembly, that the population of 26,363,074 souls, is divided into two parts, viz.:

1. In the country . . . . . 20,593,530
2. In the cities . . . . . 5,769,470

The data for this is unknown.

M. Bonvallet Desbrosses, in his treatise on the riches and resources of France, makes the population to be, viz.:

- |                          |            |
|--------------------------|------------|
| In the country . . . . . | 27,957,267 |
| In the cities . . . . .  | 7,811,832  |

By the first calculation of the committee, the population of the cities is to that of the country as 1 to  $3\frac{1}{2}$ . Agreeably to the opinion of M. Bonvallet as 1 to 2 6-7.

Lavoisier calculated thus—

|   |           |
|---|-----------|
| Population of cities and large towns . . .  | 8,000,000 |
| Laborers, farmers, valets, house-maids, shepherds, men, women, and children included . . .  | 6,000,000 |
| Day-laborers, as thrashers, reapers, slaters, masons, &c. families inclusive, living on the proceeds of agriculture . . .   | 4,000,000 |
| Vine cultivators and their families . . .   | 1,750,000 |
| Hired by vine cultors and proprietors . . .   | 800,000   |
| Traders, shopkeepers, contractors, brokers, police, harness-makers, and cartwrights, living at the expense of agriculture, men, women, and children included . . .                                | 1,800,000 |
| Small proprietors living chiefly on their farms . . .   | 450,000   |
| Sailors, day laborers of all kinds attached to factories, out of the cities, quarriers, miners, coachmen, waggoners, nobles, ecclesiastics, and their domestics, residing out of the cities . . . | 1,950,000 |
| French army . . . . .   | 250,000   |

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|                              |            |
|------------------------------|------------|
| By M. Lavoisier, Total . . . | 25,000,000 |
|------------------------------|------------|

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It appears by this view of Lavoisier, that the subdivision of the city population is to that of the country as 1 to 2 1-8.

*Statement of numbers comparative with extent.*

§ 24. M. Necker has given a statement of the population comparative with the territorial extent in 1785, giving 916 inhabitants per square league.

M. Bonvallet, in 1789, has given a similar statement, making 917 inhabitants per square league.

The committee of the constituent assembly, 1781, gave 996 per square league.

The (Cadastre) register published in the year 6, gives  $1,020\frac{1}{2}$  inhabitants per square league.

Depere, in the year 7, gives  $1,101\frac{1}{2}$  to the square league.

The prefects' returns, made to the minister of the interior, of estates, for the years 9 and 10, give  $1,086\frac{179}{2094}$  inhabitants per square league, exclusive of Piedmont and the isle of Elba.

But if the knowledge of the number of the inhabitants to the league square is a means of comparing the resources of one state with those of another, it is not of less importance to be able to compare the different parts of the same state with each other.

TABLE.

| Provinces.              | Extent in square leagues. | Population.       | Result per square league. |
|-------------------------|---------------------------|-------------------|---------------------------|
| Flanders . . .          | 176                       | 352,000           | 2,000                     |
| Cambresis . . .         | 63                        | 75,600            | 1,400                     |
| Hainault . . .          | 192                       | 259,200           | 1,350                     |
| Artois . . .            | 240                       | 319,200           | 1,330                     |
| Picardy . . .           | 548                       | 616,500           | 1,125                     |
| Normandy . . .          | 1,797                     | 2,021,625         | 1,125                     |
| Isle de France . .      | 1,548                     | 2,322,000         | 1,500                     |
| Champagne . . .         | 1,247                     | 1,197,129         | 960                       |
| Lorraine & Threebishops | 1,424                     | 1,439,200         | 900                       |
| Alsace . . .            | 541                       | 554,525           | 1,025                     |
| Bretagne . . .          | 1,801                     | 1,822,612         | 1,012                     |
| Maine and Perche .      | 881                       | 682,775           | 775                       |
| Anjou . . .             | 708                       | 589,640           | 830                       |
| Touraine . . .          | 519                       | 519,000           | 1,000                     |
| Orleanais . . .         | 982                       | 819,970           | 835                       |
| Berri . . .             | 869                       | 474,546           | 834                       |
| Nivernais . . .         | 380                       | 278,820           | 834                       |
| Bourgogne . . .         | 1,341                     | 1,072,800         | 800                       |
| Franche Comte . .       | 1,309                     | 1,047,200         | 800                       |
| Poitou . . .            | 1,554                     | 1,165,500         | 750                       |
| Aunis . . .             | 111                       | 150,960           | 1,360                     |
| Marche . . .            | 252                       | 287,488           | 744                       |
| Bourbonnais . . .       | 404                       | 282,800           | 700                       |
| Saintonge . . .         | 273                       | 227,409           | 833                       |
| Angoumois . . .         | 286                       | 212,498           | 743                       |
| Limosin . . .           | 626                       | 500,800           | 800                       |
| Auvergne . . .          | 1,176                     | 882,000           | 750                       |
| Lyonnais . . .          | 444                       | 666,000           | 1,500                     |
| Dauphiny . . .          | 1,006                     | 804,800           | 800                       |
| Guienne & Gascogne      | 3,437                     | 2,863,021         | 833                       |
| Bearne and Navarre      | 374                       | 299,200           | 800                       |
| Comte de Foix . .       | 160                       | 149,760           | 936                       |
| Roussillon . . .        | 252                       | 223,776           | 888                       |
| Languedoc . . .         | 2,250                     | 1,998,000         | 888                       |
| Provence . . .          | 1,104                     | 980,352           | 888                       |
| Corsica . . .           | 540                       | 202,500           | 375                       |
| <b>Totals</b>           | <b>30,465</b>             | <b>27,957,267</b> | <b>917</b>                |



*Estimates of births to population.*

§ 25. If it was possible to come to the knowledge of the ordinary proportion of births to the population of a state, it would suffice, in order to have the amount of its population, to multiply the number of births by the sum of the rate of this proportion, once correctly ascertained.

In order to obtain this, there has been made in France, by actual enumeration of cities and provinces, a note of the births during a certain time determined; and then by the aid of calculations, estimating from the number of births in several different years the number of inhabitants known, the aggregate amount is ascertained.

From the calculations of Moheau and Necker, that the rate of births to inhabitants is, for the most part, 1 to 25, 25½ and 26, that in the commercial towns the births are to the population as 1 to 27, 28, 29, and even to 30 inhabitants, and in the metropolis still more.

We think with M. Necker, that the mean rate to the entire population is 25½; and we are the more inclined to follow this estimate, for at the present time, according to the tables of population and births, the mean rate in the cities is the same now, as in 1780; although in the country parts, it appeared to be 21, 22, 22½ and 23: this agumentation may be attributed to the early marriages of the youth, who by this means endeavour to avoid the conscription for the military service.

The general table of the births, marriages and deaths, that have taken place in France during the year 9, will serve for a proof of that assertion, though but for one year only. That table has been completed by M. Duquesnoy, and there is every reason to believe, that if the prefects take the care to which the object is entitled, we shall know for many years to come with the strictest accuracy, the proportion of births to population. As to the proportion of illegitimate births from being the 47th, as it was in 1780, it has increased nearly to one eleventh of the total births, according to the views of M. Necker and M. Morgue.

*Of the rate of marriages to the population.*

§ 26. The means which have been shewn for estimating the proportion of population to births, may be equally applied to marriages. Moheau and Necker have examined this question. The estimate published by Necker in 1780, amounted at that time to 213,740 for all the marriages of France, and shows that that number was to the population, as 1 to 110 $\frac{1}{2}$  for the average year of ten, Corsica exclusive.

We have said that the estimate of births to the population was, in a mean year, as 1 to 25, and that of marriages, as 1 to 110, so, after those rates, it appears that of all the births, one fourth arrive at marriage. We have observed that the number of births increase in the equal ratio of population, and it may be perceived that the number of marriages are not augmented in the same proportion, notwithstanding the early marriages which have taken place the last eight or ten years; and the proof of it arises from the considerable number of illegitimate births, which come nearly up to an eleventh of the total births. It is interesting to compare and verify these statements with the returns of population, births, and marriages drawn up by the prefects.

*Of the Rate of Deaths to the Population.*

§ 27. The rate of deaths to the population is one of the least certain means to ascertain the number of inhabitants of a state, because it may be deranged by epidemics, or other causes of mortality; however, it serves the purpose sometimes. Moheau, has given the rate of deaths to population, as 1 to 30—that is to say, that there dies in the year 1 person out of each 30 persons. Necker, in a statement of the number of deaths for ten years, has given the mean number of deaths in France, as 819,491, during one year; from which it results that the rate of deaths in a common year, will be to the population, as 1 is to 30 and an 1-8.\*

\* In the account of the Plague of Toulon, in the year 1721, by M. Dentrecheum, of that city, there perished at that time in Provence 130,000 persons, and at Toulon, 16,000 persons, being one-third of the whole population.

# POPULATION.

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*Table of the probable duration of Life.*

| <i>Age</i> | <i>Duration<br/>of Life</i> | <i>Age</i> | <i>Duration<br/>of Life</i> | <i>Age</i> | <i>Duration<br/>of Life</i> |
|------------|-----------------------------|------------|-----------------------------|------------|-----------------------------|
|            | Years. Months               |            | Years. Months               |            | Years. Months               |
| 0          | 8                           | 33         | 26 3                        | 66         | 8                           |
| 1          | 33                          | 34         | 25 7                        | 67         | 7 6                         |
| 2          | 38                          | 35         | 25                          | 68         | 7                           |
| 3          | 40                          | 36         | 24 5                        | 69         | 6 7                         |
| 4          | 41                          | 37         | 23 10                       | 70         | 6 2                         |
| 5          | 41 6                        | 38         | 23 3                        | 71         | 5 8                         |
| 6          | 42                          | 39         | 22 8                        | 72         | 5 4                         |
| 7          | 42 3                        | 40         | 22 1                        | 73         | 5                           |
| 8          | 41 6                        | 41         | 21 6                        | 74         | 4 9                         |
| 9          | 40 10                       | 42         | 20 11                       | 75         | 4 6                         |
| 10         | 40 2                        | 43         | 20 4                        | 76         | 4 3                         |
| 11         | 39 6                        | 44         | 19 9                        | 77         | 4 1                         |
| 12         | 38 9                        | 45         | 19 3                        | 78         | 3 11                        |
| 13         | 38 1                        | 46         | 18 9                        | 79         | 3 9                         |
| 14         | 37 5                        | 47         | 18 2                        | 80         | 3 7                         |
| 15         | 36 9                        | 48         | 17 8                        | 81         | 3 5                         |
| 16         | 36                          | 49         | 17 2                        | 82         | 3 3                         |
| 17         | 35 4                        | 50         | 16 7                        | 83         | 3 2                         |
| 18         | 34 8                        | 51         | 16                          | 84         | 3 1                         |
| 19         | 34                          | 52         | 15 6                        | 85         | 3                           |
| 20         | 33 5                        | 53         | 15                          | 86         | 2 11                        |
| 21         | 32 11                       | 54         | 14 6                        | 87         | 2 10                        |
| 22         | 32 4                        | 55         | 14                          | 88         | 2 9                         |
| 23         | 31 10                       | 56         | 13 5                        | 89         | 2 8                         |
| 24         | 31 3                        | 57         | 12 10                       | 90         | 2 6                         |
| 25         | 30 9                        | 58         | 12 3                        | 91         | 2 3                         |
| 26         | 30 2                        | 59         | 11 8                        | 92         | 2                           |
| 27         | 29 7                        | 60         | 11 1                        | 93         | 1 10                        |
| 28         | 29                          | 61         | 10 6                        | 94         | 1 8                         |
| 29         | 28 6                        | 62         | 10                          | 95         | 1 6                         |
| 30         | 28                          | 63         | 9 6                         | 96         | 1 4                         |
| 31         | 27 6                        | 64         | 9                           | 97         | 1 2                         |
| 32         | 26 11                       | 65         | 8 6                         | 98         | 1 1                         |
|            |                             |            |                             | 99         | 1                           |

This table shews that there is a reasonable expectation, or, an equal chance, that an infant to be born, or whose age is at zero, will arrive at the age of 8 years—that an infant which has already lived a year, will live 33 years, and so with the other ages.

It is observable—1st. That the age at which the longest duration of life may be expected is 7 years, since the chance is equal to 42 years 3 months. 2dly.—That at the age of 12 or 13 years, a person has lived the one-fourth of his life from which he cannot reasonably hope for more than 38 or 39 years; and that even at the age of 28 or 29 years, a person has lived the one half of his life, since he has only 28 years to live—and finally, that before 50 years, a person has lived the three-fourths of his life, since no more than 16 or 17 years can be hoped for. But these physical truths, in themselves so mortifying, are compensated by moral considerations. A man may regard as null, the first fifteen years of his life, all that has occurred to him in that long interval of time, is effaced from his memory, or at least has so little connection with the objects that have subsequently occupied his attention, that he is no longer interested by them in any way : there is no longer the same succession of ideas, nor, as we may say the same life.—We only begin to live morally when we begin to arrange our thoughts, to turn them towards a certain future. In considering the duration of life under this point of view, which is the most real, we find by the table, that at the age of 25 years, a man has lived one fourth of his life, at 38 years but one half; and it is not until the age of 56 years, that a man has lived the three-fourths of his life.

*Proportion of each sex, in the population.*

§ 29. Although the proportion of each sex varies according to occupation, and trade of the places selected for research, the opinion generally entertained from the enumeration and returns of births, is, that in France the rate of proportion is, 17 females for 16 males. At this time it would be

very interesting to know, how this proportion has been varied by the military levies—the consequences of the Revolution;—but it has been impossible for us to procure satisfactory data, nor is it to be obtained, except, by the new statements of population, arranged by M. Duquesnoy, and which the Prefects shall be enjoined to fill up with care.

*Proportion of different ages, in population.*

§ 30. This part of statistics, and that of the probability of the duration of life, have been the object of many combinations, being the basis of the system of life-annuities and *rentes*. This subject has been discussed particularly among the English and Genevese. After the most exact enumerations, estimates and calculations, possible, it has been found that in ordinary times, the rate of ages to population, was, as follows :—

| AGES                     |     |   | PROPORTION TO POPULATION |                         |
|--------------------------|-----|---|--------------------------|-------------------------|
| § 31. From 1 to 10 years |     |   | $\frac{1}{4}$            | of the whole population |
| 11                       | 20  | — | $\frac{1}{21}$           | ditto                   |
| 21                       | 30  | — | $\frac{2}{13}$           | ditto                   |
| 31                       | 40  | — | $\frac{1}{7}$            | ditto                   |
| 41                       | 50  | — | $\frac{1}{8}$            | ditto                   |
| 51                       | 60  | — | $\frac{1}{13}$           | ditto                   |
| 61                       | 70  | — | $\frac{1}{20}$           | ditto                   |
| 71                       | 80  | — | $\frac{1}{55}$           | ditto                   |
| 81                       | 90  | — | $\frac{1}{480}$          | ditto                   |
| 91                       | 100 | — | $\frac{1}{1600}$         | ditto                   |

*Proportion of population to military levies.*

§ 32. By knowing the number of males and their proportion to the entire population, we ascertain how far the military levies may be extended for the land, or sea service. This statement arises from so many different facts that they cannot be detailed here; we merely remark, in a general way, that the levies are easier made in agricultural countries, such as France, than in manufacturing states, like England.

In Prussia the military class is more than a tenth of the whole population.

In France, admitting every male not married as liable to military duty, above the age of 18 and under 50, we shall have 1,451,063 individuals, from whom must be deducted all who are infirm and incapable of bearing arms. If it is admitted that all the males above 18, married or not, are liable, then the disposable force will be for national defence, about five millions of men, deducting all above 50, the infirm and unserviceable.

The rule of the forced conscription in France was formerly from 18 to 41 years of age, from a population of 24,000,000 of inhabitants: 1,175,000 is computed as fit for the army.

From these it results, that, in time of peace, and taking those from 20 to 25 years of age annually, we shall have 413,375 men, or a twenty fourth of the population, fit to carry arms.

## THE SOIL.

§ 33. The soil of France is not uniform, and the variety is distinguished in following either the course of the mountains or of the rivers. This mode of scanning a territory throws much light on the value of estates respectively, from a calculation of the produce which may be yielded by them.

Arthur Young, in his *Travels in France*, during the years 1787, 1788, 1789 and 1790, has distinguished, after examination of the parts, seven different kinds of soil within the ancient limits, arranged under the heads of the different kinds of culture.

Admitting this opinion, which appears to be the best, and extending it to the new departments, let us see if it be possible to make an application of it.

### HECTARES.

§ 34. 1. *Grounds fertile and rich*—As of Mont Tonnerre, La Lys, L'Escaut, La Dyle, Pas de Calais, Du Nord, L'Aisne, Seine and Marne, La Seine, Seine and Oise, Eure and Loir, Eure, Lower Seine, La Somme, L'Oise, Lower Rhine, L'Aude, du Tarn, Du Lot, La Haute Garonne, L'Hérault, La Vendée, Deux Sevrès, Du Loinet, Du Po, De Marengo, Du Tanaro, and La Seside . . . . . 11,109,151,51

§ 35. 2. *Heaths and wastes*—Such as those of the departments of the Doux Nethes, La Roer, La Loire the lower, Morbihan, Finistère, Cotes-du-Nord, Ille et Vilaine, Mayenne and L'Orne, Calvados, La Manche, La Gironde, La Dordogne, Lot and Garonne, L'Arriège, Upper Pyrenees, Lower Pyrenees, Des Landes, Du Gers, L'Aveyron, and Du Gard . . . . . 11,677,502,88

§ 36. 3. *Chalk lands*—As in the departments of La Marne, Ardennes, L'Aube, High Marne, Loire and Cher, Indre and Loire, La Charente, Charente the lower, and Vienne . . . . . 6,772,452,17

§ 37. 4. *Gravel land*—As La Nievre and L'Allier . . . . . 1,920,085,98

§ 38. 5. *Stony lands*—As La Sarre, Des Forêts, Rhine and Moselle, Des Vosges, La Meurthe, La Meuse, Du Haut Rhine, La Cote d'Or, La Haute Saone, Du Doubs, De Saone and Loire, Du Jura, L'Ain, L'Yonne, Du Rhone, La Loire, and De Jemapes . . . 9,508,068,06

§ 39. 6. *Mountainous lands*—As D'Ourte, Sambre and Meuse, La Meuse Inferieure, Eastern Pyrenees, La Lozere, Du Cantal, La Correze, Haut Loire, L'Ardecche, La Drome, Upper Alps, Lower Alps, Maritime Alps, Du Var, Mouths of the Rhone, Vaucluse, Puy de Dome, Mont Blanc, Du Lemane, L'Isere, Du Liamone, Du Golo, La Stura, and La Doire 13,119,097,29

§ 40. 7. *Sandy lands*—As those of the departments of the Indre, Du Cher, la Creuse, la Haute Vienne, La Sarthe, and La Mayenne 4,151,571,14

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Total, equal to the general superficies of France 61,258,782,06

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§ 41. By the same rule, to estimate the territorial produce of France, and ascertain the extent of each portion of territory employed in each species of culture, or particular production, the result will be in six divisions, viz.:

|   | HECTARES.     |
|---|---------------|
| 1. Cultivated grounds . . . . .                                       | 33,219,437,40 |
| 2. Vine lands . . . . .   | 2,434,365,64  |
| 3. Woods . . . . .  | 8,134,716,26  |
| 4. Rich pasturage . . . . .   | 3,302,033,92  |
| 5. Artificial meadows . . . . .                                       | 3,745,303,84  |
| 6. Heath and waste, uncultivated, rivers, ponds, marshes, &c. . . . . | 10,422,926    |

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Total, equal to the entire superficies of France 61,258,782,06

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§ 42. *Lands, fat and rich*—Mont Tonnerre, if the steep heights, which are numerous in this department, are a loss to agriculture, there is a compensation in the produce of the forests and in the mines of different kinds, which are worked; as antimony, cobalt, sulphur, and fossil coal. The most celebrated are those of mercury and pit coal. It is washed by the Rhine and produces a little corn, flax, hemp, and wine.

§ 43. *La Lys* (Austrian Flanders)—Soil arid and sandy; but the mud of the rivers affords a coat of vegetable earth which, joined to the industry of the inhabitants, renders this country very fertile: it produces abundance of corn, flax, and grass of every kind.

§ 44. *L'Escaut* (Austrian Flanders)—The ancient country of Was, on the left bank of the Escaut, occupies a rich valley: the sides, gently declining, are covered with corn, flax, and rich pasturage, where excellent horses are raised. The humidity of it during the winter is remarkable.

§ 45. *La Dyle* (Brabant)—Cut by fine canals and watered by many rivers. This department is very abundant in grain, coal and pasturage. Its soil is in general the most fertile; sand chiefly prevails, mingled with shells; very little pure clay is found there, it is covered with a coat of vegetable earth. In this department is found the finest woods; that of Soigne is considerable.

§ 46. *Pas de Calais* (Picardy and Artois)—Is one of the most abundant in grain, it produces also hops, colza, and hemp. The soil is excellent. The sea annually deposits on the coasts a fine sand, of which the quantity is prodigious; these sands cover a league and half in breadth in many places, and never less than a league; each year they make new progress.

§ 47. *Le Nord*. French Flanders, (Hainault and Cambrésis)—This department contains, in general, fertile plains, deep and even. Its soil is very rich, and affords in abundance, corn, flax and colza. It is populous, and covered with considerable towns.

§ 48. *L'Isne* (Ile de France)—This department wa-

tered by the Oise, the Serre, Marne, Vesle and L'Aisne, which traverse it from east to west, is in part covered with forests; it produces corn in abundance. Its surface without being marked by any striking peculiarities, contains high plains and valleys benefitted by the above rivers, and some smaller streams. There are no mountains strictly speaking, but some knolls, to which that name is given in the absence of other larger masses. In the neighborhood of Ardennes the air is sharp, and the ground uncultivated; as we approach towards Laon, the fields assume a more cheerful appearance, and the soil is more fruitful; it is still more so near St. Quentin.

§ 49. *Seine and Marne* (Ile de France)—Produces in abundance corn, wine and forage; the borders of the Seine and Marne, in particular, are very fertile; they give their name to the department which they pass through in a western direction.

§ 50. *La Seine* (Ile de France)—A great part of this department is occupied by the city of Paris, the remainder is a very meagre soil, but by manuring and culture, produces corn and vegetables in plenty, and some wine.

§ 51. *Seine and Oise* (Isle de France)—This department is watered by the Oise, towards the North, and by the Seine, which crosses it nearly in the centre, in a meandering course, from La Roche, Guyon, to beyond Corbert. The surface is in general level, offering to the view only some small hills. The culture affords corn, fruits, wine and culinary vegetables.

§ 52. *Eure and Loire* (Orleanois, Beauce et Perche)—Produces wheat in abundance. The two rivers Eure and Loire water this department, the one from North to South, the other South to North. In the plain of Beauce, which forms a large part of this department; we see no woods, rivers, mountains or vines, but only vast fields of corn. In the ancient Perche there is much waste land.

§ 53. *L'Eure* (Normandy)—Is watered by the river of the same name, and partly by the Seine, to the N. E. The soil is fertile in grain. The pasturage also is good, and horses

of high repute are raised there. The apple trees afford cider of a good quality.

§ 54. *Seine lower (Normandy)*—The crop is corn, flax, hemp, colza, fruits, particularly apples, of which excellent cider made. The *arrondissement* of Gournay on the east, presents mountainous country, traversed by large vallies, the bottoms are sandy, or of strong clay, wet or dry, arid or fertile, according to situation and aspect, with chains of hills covered with woods. The neighborhood of Montvilliers consists of very productive plains. In the maritime cantons marl is used to fertilize the soil. It is found at unequal depths. The diggers pretend that it lays in pyramidal forms. At the end of the wood of Rouvray is an extensive heath.

§ 55. *La Somme (Picardy)*—The chief produce is grain and pasturage. It has many plains, but naked and chalky; marl is found here. The valley of La Somme is merely an extensive marsh of turf.

§ 56. *L'Oise (Ile de France)*—This department is traversed in the eastern part from N. to S. E. by the river Oise, from which it is named. Beauvais and Senlis are the most fertile in grain: from Pont-Saint-Maxence to Crepy the soil is more sterile. The clays of which the most part are reddened by the iron stone, and therefore called *rougettes*, are not of much depth or esteem. Some vine patches and woods are found.

§ 57. *The Lower Rhine (Alsace)*—Bounded on the east, in all its length by the Rhine, this department is watered also by many small rivers. This territory though varied, is in general very fertile and abundant; that part called Le Riche has much wood, but of middling produce in grain, on account of the freshes in the rivers. From the Ille to Vosges, from Saverne to Strasburg, and from Saverne to Haguenau, is very fertile. The plain of Marienthal, of which Haguenau makes part, is sandy, and by a laborious cultivation is made to produce madder. Between Haguenau and Les Vosges, and Haguenau and Landau are meadows, marshes along the Rhine.

and immense forests, among which are those of Haguenau and Bienwald. The plain of Landau is of great fertility; it is similar in soil to Strasburg. The cantons of Les Vosges are but sterile.

§ 58. *L'Aude* (Languedoc)—This department washed by the sea, and traversed by the canal of Languedoc, and the river Aude; is very hilly, the soil is arid, yet some vineyards of repute are found and good pasturages.

§ 59. *Le Tarn* (Languedoc)—This department is traversed by several streams in its breadth from E. to W., among others the Tarn, to which it gives its name, contains mines of iron, lead and coal. It produces in abundance different kinds of grain, hemp, fodder, wine and chesnuts. It may be divided into fertile plains, pleasant valleys, cultivated slopes and wooded mountains. Marl is found in abundance, yet it is but little used from the expence of procuring it, though it pays well; for grounds manured well with marl give good crops for 20 or 25 years after. It is true that to cover an arpent, it requires six or seven loads of marl, of ten or twelve quintals each. In the environs of d'Alby, though mountainous are fine plains.

§ 60. *Le Lot* (Géyenne)—Though watered by three rivers, the Lot, Selle and Dordogne, offers in general a soil dry and stony; the surface is uneven, there are hills of considerable size, some naked and some wooded, deep valleys and some plains. The whole department is fertile in corn, wine, and fruits of all kinds.

§ 61. *La Haute Garonne* (Languedoc)—This department is cut by the Garonne, which receives the tribute of many other streams. It owes its great fertility to the industry of its inhabitants, as well as to the bounty of its soil. It has quarries of fine marble, and mineral water.

§ 62. *L'Hérault* (Languedoc)—This mountainous country is bounded by the Mediterranean sea, on the S. E. It is fertilized by many considerable streams. On its borders the steepes offer to the view only naked rocks; in approaching Montpellier the soil changes totally; though light, it is well

cultivated and manured. Lodeve is also surrounded by mountains. In descending towards Clermont, we find the valley of Vilaquiere, which extends from Clermont to the river Hérault; the soil is strong, sandy and of great produce.

§ 63. *La Vendée* (Poitou).—The part called the Grove (*Bocage*) which occupies 134 superficial leagues, is nearly 5-9ths of the whole department; and yields abundance of rye, barley, buckwheat and good pasturage. The meadows, woods and plains, watered by innumerable streams, present an enchanting prospect. There are, however, some wastes of little extent. The west and south sides to which the name of the garden has been given, are the most fertile, and produce the best wheat of France. They were formerly covered by the sea. The western, formed by successive accumulations, rests on a basis of sand. The southern, is a shallow from which the sea has receded, and left a bottom of compact mud of great depth. The farm stock is very beautiful.

§ 64. *Les Deux Sèvres* (Poitou).—A chain of hills and high plains form a kind of ridge passing from Vienne into Deux Sèvres, to the S. E. and continue, after a little circuit, due N. from hence, running N. W.; it divides the district into two slopes. The first to the S. W. the soil of which is calcareous, consists of plains, divided by knolls. Vast quantities of the remains of petrified sea animals are found here. The second to the N. W. affords no flats; in that part particularly called Gratine, there is nothing but hillocks and ravines. Agriculture is flourishing, and produces corn, maize, fodder, nuts, chestnuts, &c.

§ 65. *Le Loire* (Orléannais).—Three rivers, the Loire, Loir, and Loing, water this department, in which is found the forest of Orléans, of length 20 leagues, and breadth 4 leagues, and nearly 14,000 acres. The soil is bad.

§ 66. *La Po* (Piemont and Marquisate de Suze).—The Po, which gives its name to this department, washes the eastern part. La Doire, waters the remainder in its serpentine course from W. to E. This district is fertile, producing all kind of grain, pasturage, and vineyards.

§ 67. *Le Marengo* (Montferrat, Tortonese, and Pavese).—This département is washed throughout by the Tanaro, and to the N. by the Po; whose inundations, without being so frequent or so destructive, as in the lower parts of Lombardy, yet cause much damage. The soil too distant from the south, and too near to the chilling mountains of Lagura, is unfavorable to the culture of the olive, the loss of which is supplied by the walnut. The fields are fertilised by the Tanaro, Scrivia, Bormida, Lidone, and their numerous branches. A few hours rain raises great torrents. Most of the fields are enclosed with ditches full of water; they are ornamented with mulberry, walnut, poplar, elms, and other useful trees.

§ 68. *Le Tanaro* (Province D'Acqui).—The east part is cut up by torrents forming a great number of ponds in their course. The soil of the Ligurian hills is favorable to vegetation, but very loose, and gives way with the torrents. The descending wash has partly overspread the Ligurian coast and a part of that of Piedmont, so that the valleys have been insensibly enlarged. The hill on which Castiglione is built, and the adjacent eminences, contain quantities of limestone. The *arrondissement* of D'Albe and its environs are vulgarly called barren, though the barren tracts are intermingled with fruitful hills and valleys. There is also much land covered by water and marsh.

§ 69. *La Sesia* (Seigneurie de Verceil).—This département is bounded by the river of the same name; it is besides watered by many little rivers, of which the husbandman avails himself in watering his grounds; after seed time the whole is laid under water, and by this means large crops are obtained from a soil absolutely sterile by nature. The woods are inconsiderable, but furnish game. The wet grounds are sown with rice, those naturally humid with grain, hemp, and flax: the corn harvest is hardly over before the middle of autumn. The declivities, where the soil is light, gravelly, and poor, are favorable for vines, and produce excellent raisins. The grounds, too barren for vines, suit for mulberries, and they are much cultivated. Gold mines, very productive, are found near Verceil.

## WASTE AND BARREN LANDS.

§ 70. *Les Deux Nethes* (Brabant)—This district, watered by the Escaut, and the two little rivers of which it has taken the name, has several cantons of rich soil, but it chiefly consists of barrens, sands, and marshes; to the west are hills and mountains. The waste lands furnish turf for fuel.

§ 71. *La Roer* (Duchy of Juliers)—This department, which contains very fine plains, is in general very fertile in corn, flax, and madder. The environs of Bonn, being mountainous, are covered with vineyards; the south part is used as pasturage. There is found there also, coals, lead, calamine, and iron. The reason why this district has been classed among the waste lands is, that many are interspersed throughout it, some of them of many leagues.

§ 72. *La Loire Inferieure* (Bretagne)—This department, washed on the west by the sea and on the north by the river Erdre, is traversed by the Loire from E. to W. More than one third is forest, marsh, or barrens. The remainder is in cultivation in grain, vineyards, and pasturage. The meadows are planted with fruit trees, particularly the apple tree. This department produces also wood, salt, turf, and coals; there is also some mineral springs.

§ 73. *Le Morbihan* (Bretagne)—This department is watered by the Vilaine, Blavet, L'Ourt, L'Avé, and some other small rivers; it has taken its name from a gulf or lagoon, formed on the south by the sea. Its chief productions are maize, grain, flax, and hemp; but not very abundant. In general the soil is not fertile; there is much land uncultivated.

§ 74. *Le Finistere* (Bretagne)—This department is so named from its being on all sides surrounded by the sea; it terminates in the west, that peninsula forming the five departments of Brittany. It is watered by many little streams, and is mountainous and rocky; its soil is not fruitful, but produces some grain.

§ 75. *Les Cotes du Nord* (Bretagne)—The limit of this department northwards is the sea, and it is therefore called

by this name. It is a mountainous country, fruitful in grain and hemp, but particularly in maize; there is however some barrens.

§ 76. *L'Ille-et-Vilaine* (Bretagne)—The one half of this department only is cultivated, the rest is forest and waste. Nearly throughout, the vegetable soil is gravelly, schistous, and thin, incapable of sustaining vegetation unaided by the natural humidity of the atmosphere. In some cantons a deep stratum of clay is found. Ile-et-Vilaine yields fine pasturage, hemp flax, barley, and maize; the marshes of Dol are the most fertile.

§ 77. *Mayenne et Loire* (Anjou)—This department is traversed by the Loire from E. to W., is watered on the north by the Mayenne and the Sarthe, is fruitful in good wine, corn, fruits, flax and pasturage. There are several heaths and barrens. The iron and coal mines, and the quarries of marble and slate, are here very abundant.

§ 78. *L'Orne* (Normandy)—This department is divided by a chain from east to west, through its whole length of remarkable mountains, in lofty summits and declivities, chiefly crowned with forests, from whence timber is procured. This country possesses excellent pastures, and raises very fine horses and produces also corn, and different kinds of fruits. In the vicinity of Alençon there are quarries which yield a stone fit for mill stone, also a species of flint of a brilliant appearance when well set, which are called Alençon diamonds.

§ 79. *Le Calvados* (Normandy)—Washed by the sea and several other rivers, as the Orne, Touques, L'Aure, La Vire, &c, is mountainous and rocky in many places. The soil is in general a dark brown, stony and granateous; in the valleys are argillaceous bottoms, and miry wastes. It is fruitful in grain and fruits, but chiefly in pasturage. There are also some noble forests.

§ 80. *La Manche*. (Normandy)—Its soil is rocky, particularly in the south. The pastures are good, and are a source of riches to the country, they have also corn, and cyder.



§ 81. *La Gironde*. (Guyenne)—Is washed by the sea on the west and in the interior by the Garonne and the Dordogne, which uniting at Bec-d'Ambes take the name of Gironde. In the valley from Agen to Bordeaux the soil is good: it is friable sandy tufa, sufficiently moist for vegetation; the largest proportion is calcareous. The cantons to the west and south constantly soaked in their low bottoms of clay and marl, are sterile. The sands blown from the east, covers every year twelve toises in breadth, by sixty leagues in length; they render the vicinage sterile. This department abounds in excellent wines, the barrens produce turpentine, &c.

§ 82. *La Dordogne* (Guyenne, Perigord)—This department is watered by the river of the same name, by the Drome and Ille, variegated with mountains covered with woods. The grounds in general sterile and rocky, produce but little grain or vines. Its chestnuts and truffles are in repute.

§ 83. *Lot et Garonne* (Guyenne)—Many parts offer but ordinary lands, washed by the rains, which render them sterile. Towards the east, on the borders of the Lot, the hills have a hideous appearance, and consist chiefly of calcareous rocks, baffling every attempt at cultivation. In the cantons, formerly le Haut Agenois, the soil is a hungry clay, colored by iron. The one-eighth of the district is a moveable sand, in which, by force of manuring, a little rye and pans (canary seed) is raised. The vallies of Lot and Garonne are, however, of great fertility, producing grain, fruit, pasturage, wine, tobacco, hemp, &c.

§ 84. *L'Arriège* (Comte de Foix)—Takes its name from a river which traverses it from S. to N. and which with its sands rolls down some particles of gold. This district, in general mountainous, may be divided into two parts; the higher which furnishes good timber, iron, asbestos, marbles, jasper and turquoises, is also very abundant in pasturage, in medicinal plants and flowers; the lower parts somewhat more favourable to agriculture, furnishes its inhabitants with a sufficient supply of corn, wine, and fruits.

§ 85. *Les Hautes Pyrénées* (Gascogne, Bigorre).—In this department are many mineral springs, many torrents, but no considerable river. The mountains are peaked.

§ 86. *Les Basses Pyrénées* (Bearn).—This territory is much varied. It unites to a sea coast, mountains covered with wood, especially firs, hills covered by vineyards, with rich valleys, and savage barrens. The little knolls which surround the mountains, are chiefly of calcareous stone; that part nearest the sea presents only an appearance of sand and gravel. The valleys and plains are covered with clay and sand in mixture: though hilly and dry it is fertile from the rains derived from its proximity to the Pyrenees. Its produce is grain, wine, fruit, hemp, and flax that is much esteemed. There are some quarries of marble, mines of iron, lead, and copper.

§ 87. *Les Landes* (Gascogne).—Takes its name from the quality of its soil; it is nearly covered with sands, heaths, and pine woods. Some small spots interspersed, cultivated by active men, look like gardens in a desert.

§ 88. *Le Gers* (Gascogne).—Is traversed by the Gers and several other rivers. Though mountainous, elevated, intersected by hills and dales of little fertility, yet it furnishes plenty of grain, fruit, wine, and woods for the marine and other uses. All the vegetable earths of this country are bottomed on strata of clay differently mixed: these beds of clay, which succeed one after another to a great depth, are sometimes divided by thin layers of sand or tufa. As to the internal of those hillocks, it is commonly stone formed of calcareous earth, in the crevices of which are found little crystals of calcareous spath of different forms. There are also iron mines and quarries of marble and stone. The air is remarkably pure, the country being free from marshes.

§ 89. *L'Aveyron* (Guyenne).—This department is watered by the Aveyron on the north, by the Lot in the centre, and by the Tarn to the south, produces, where there is calcareous earth, wheat, barley, oats, maize, and buckwheat. On those parts where it is schistous and sandy, rye, oats, and buckwheat,

In the river bottoms, wheat, &c. : there are also vineyards, but its pastures are its grand resource. Of mines, there are iron, copper, allum, vitriol, sulphur, and coal, and mineral springs.

§ 90. *Le Gard* (Languedoc)—Is traversed by the Gardon or Gard River, by the sea on the south, by Ceze on the north, and by the Rhone on the east. The district of Nimes is a heavy strong soil, and well cultivated; but ascending the right bank of the Gard this is no longer seen, but a desert, known by the name of *Garrigues de Nimes*, consisting of naked calcareous rocks. The plain comprehending the district of Lunel-Bridge is the most fertile. That part above Beaucaire is the most sterile, and abounds with flint stone. The canton D'Uzis is generally mountainous. The canton of Gard furnishes corn, olives, and wine, and wood for the marine, &c. The mountains contain coal, iron, jet, antimony, vitriol, copper, and silver.

#### CHALK LANDS.

91. *La Marne* (Champagne)—Its principal wealth is in vineyards; the soil in general is dry and sterile; it is only the parts on the east, about four leagues in breadth, and on the west, about six leagues, which may be deemed fertile. The soil of La Marne is various, sour marsh, virgin earth mixed with clay, turfy bog mixed with clay, chalk, veins of sand, and different sorts of decaying vegetables, swollen by stagnant rains, red sand, with an admixture of clay and gravel, chalk with clay, chalk pure, pure gravel deposited by the waters, with a light covering of earth.

§ 92. *Les Ardenues* (Champagne)—There exists therein three different kinds of soil. It is watered by the Meuse and L'Aisne. The north part is chiefly under wood, among which is much cold uncultivated ground, requiring paring and burning, to render it any way productive. In the vicinage of L'Aisne the soil is better, carefully cultivated, and yields grain and hemp; towards the centre are plenty of fruits, as apples, prunes, cherries, and vines.

§ 93. *L'Aube* (Champagne)—Is washed by the Seine and the Aube: is fertile, and produces woods, pasturage, and vineyards. That part on the east and north of the Troyes, is not so good; it is a chalk bottom, covered lightly with vegetable earth. That called *Champagne Pouilleuse* is almost a barren.

§ 94. *La Haute Marne* (Champagne)—In this territory are found the sources of three rivers, the Marne, Meuse, and Aube; it produces grain and pasturage; its soil is in general chalky, and in some spots sandy, but is covered over, for the most part, with good tillable earth.

§ 95. *Loir et Cher* (Orleanais)—Is of a plain surface, produces corn and wine. The *arrondissement* of Romorentin is sandy, covered with barrens, marshes, and ponds. La Sologne, which contains a million of arpents, is a tract totally abandoned; it is a flat of sand and gravel, on a bottom of clay or marl, which retains the water, insomuch that the ditches and holes are always full.

§ 96. *Indre et Loire* (Touraine)—The valley de la Touraine, a kind of angle formed by the Indre, Loire, and Cher, is of an admirable soil, there is no other to be compared to this, justly styled, "GARDEN OF FRANCE:" but all the department is not equally fine; to the south of the Loire are grounds covered with gravel and sand, on a calcarious bottom. There is in this department an immense bank of petrified shells, vulgarly called *falun*, its extent is 9 or 10 square leagues, and has a depth of 18 or 20 feet.

97. *La Charente* (Saintonge, Angoumois)—It has many small hills and produces corn and wine. Its soil is calcarious, dry and hot. Those hills contain many remains of sea shells, and other marine bodies in strata; some vertical, some horizontal: as we go eastward, this calcarious mixture is changed for sand.

§ 98. *La Charente Inferieure* (Saintonge et Aunis)—Saintonge is more fertile than Aunis; it yields a sufficiency of corn, wine, fruits, pasturage, wood and saffron. Nearly a sixth of *Charente Inf.* is drained and fertile marsh. There are salt

marshes on the coast, which render the air very unhealthy, but afford good salt.

§ 99. *La Vienne* (Haut-Poitou)—Its soil is calcarious in some parts, but in general is a meagre loam on a stony bottom. Montmorillon has many barrens and heaths. The canton of *Saint Genest* is a rich sand and, suitable for vegetation.

#### GRAVEL LAND.

§ 100. *La Nievre* (Le Nivernais)—Forms a vast plain, across which flows the Loire and L'Allier. The produce is grain, wine, fruit and much wood: also, iron and coals. Marl is found near Douzy. In L'Allier, the lower part, watered by large rivers, is an argillaceous clay, which renders it fertile. The borders of the Roublé, Scioule and Rebre, are rich lands. This quality makes one half, the rest are sandy and gravelly, the thin stratum of which rests on a base of granite.

#### STONY LANDS.

§ 101. *La Sarre* (Part of the electorate of Treves and duchy of Deuxponts)—This department is watered by the Moselle, and by many little rivulets; its numerous mountains are covered with forests, and contain minerals of different kinds; it yields very good wine, some corn and pastures, and the soil is sandy in many parts.

§ 102. *Les Forets* (Duchy of Luxembourg)—This country is dotted all over with mountains, which are rendered almost inaccessible by a sandy, or gravelly soil. They are covered with extensive forests, and sometimes by barren heaths; there are no plains nor small hills fit for cultivation. From the poverty of soil, its resources are from its iron mines. Around the city of Luxembourg, it is somewhat better, producing some rye and oats.

§ 103. *Rhin and Moselle* (Part of the electorate of Treves)—Contains several mountains, in which are many minerals, as iron, lead, calamine, copper and even silver and gold. The borders of the rivers of the same name are covered with ex-

cellent vines. There are also good tillage lands, in some cantons.

§ 104. *La Moselle* (Lorraine).—This district is in general very fertile; it produces abundantly corn, forage, vines, flax and fruits of all kinds. Some parts are mountainous, and covered with woods,

§ 105. *Les Vosges* (Lorraine).—Is watered by the Moselle and the Meurthe. It may be divided into two parts.—That called *the plain*, though somewhat hilly and unequal, the soil is calcarious, mixt with clay, which renders it very productive; in the other part, named *the mountain*, being two-thirds of the whole, the soil is poor, and flinty, of light earth and sand: it appears to be a continued ridge of barren hillocks.

§ 106. *La Meurthe* (Lorraine).—This department is watered by several rivers, and is fertile; nature has given to those places that are least so, an equivalent in iron mines, and salt springs. In Luneville, the soil is light and sandy. It affords considerable quantities of timber,

§ 107. *La Meuse* (Lorraine Barrois).—Its rivers are the Meuse, L'Aisne and Ornain; it produces plenty of corn and wine, though its soil is meagre in general, excepting in the valleys and some plains. Its extensive forests afford wood for forges and glassworks.

§ 108. *Le Haute Rhin* (Alsace).—The plain of Alsace, including the higher and lower Rhine, of which the fertile part nearly amounts to 300 square leagues, may be deemed among the richest lands in France; it is composed of a sandy loam, but moist and friable, capable of supporting any production.—There are fine forests, iron mines, lead and coals.

§ 109. *Cote-d'Or* (Bourgogne).—After the tracts of the Bruyere, la Sologne, le Bourbonnais, and le Nivernais, I know not, says Arthur Young, a worse. There is a great part untilled, and what is in cultivation is much neglected. Their wines yield an indemnity, being very good; there is also excellent iron mines. The plain of Dijon both fertile and agreeable,

§ 110. *Le Haute Saone* (Franche Comte)—Does not contain any considerable city, but many villages; the soil is various, presenting on its surface, cultivated fields, gardens, vineyards and spaces fit for pasturage.

§ 111. *Le Doubs* (Franche Comte)—Contains much ferruginous earth, schist and gravel. From Besancon to Ornans, the country is full of rocks. The canton of Pontarlier particularly, is studded with mountains, producing some bad pasturage. It contains several marshes, some of them extensive. On the whole this district may be called fertile, producing grain and good pasturage.

§ 112. *Saone and Loire* (Bourgogne)—Besides the Saone and Loire, it is watered by the little rivers, la Seille, la Salle, le Soluan, &c. Its appearance is variegated with mountains, covered with wood, abounding with marble quarries, fruitful plains and hills producing excellent wines.

§ 113. *Le Jura* (La Franche Comte)—Of steep declivities, soil flinty, light, sandy, without depth, resting on a white argil, and almost impervious to the roots of plants; such are the principal obstacles to its amelioration: if it produces but little grain, it is indemnified by its excellent vineyards; its fine forests, also, contribute much to its riches, and its salt springs and mines of iron, lead and copper; its quarries of black marble, jasper, and alabaster.

§ 114. *L'Ain* (Bourgogne)—The east part contains elevated mountains, prolonged from the Jura; in the west there is also a chain of mountains called *Cotes de Revermont*. The rest of the district presents a plain of unequal level, in the valleys of the Saone; and in that of the other rivers which water it, there is much uncultivated land, barrens, and at least 70 square leagues in stagnant water. The stratum of vegetable earth is thin; at a little depth there are found calcarious earths and marl, but argil prevails. The N. W. part, though including in it much waste land and some valleys, but of middling or even bad quality, nevertheless, constitutes the best part of the district; the soil is in general good, and well cultivated. The

villages contiguous to the Saone are rich and populous, the soil there being deep, mixed with sand and vegetable earth. In the south west all is different; vast fields of rye, woods badly kept, much waste land and stagnant waters, on all sides scattered habitations. The attention of an observer is drawn to the vast marsh *Les Echets*, and a flinty plain, arid and burning, called *Valbonne*. Two-thirds of this department is occupied by naked rocks, barren mountains, heaths, scrubby woods, and stagnant ponds, without number.

§ 115. *L'Yone* (Bourgogne)—Besides the river of the same name, there are many others and rivelets. It is mountainous, and produces wine that is highly esteemed.

§ 116. *Le Rhone and La Loire* (Lyonnais)—These two departments present a mass of mountains and hills, so closely set, that but little space remains between them. The soil is poor and stony. Along the Saone and Rhone, a chain more or less elevated, is carefully cultivated; that part stretching to the east, is planted with vineyards. On a higher level, are mountains of 300 toises in height, as Poleymeux, Montceindre, Montoux, of which the extreme points are to the north; the environs of Belleville and Mornant to the south. Higher still is an extent topped with mountains; some stretching from N. to S. others from E. to W. gradually ascending. The highest elevation from St. Symphorien gives the extent, comprising Beaujou, Chamelet, le bois d'Oingt, d'Yoint, Tarrare, Besse-nay, and St. Laurent de Chamousset, to the department of Haute Loire. In this zone the vine will not grow, and fruits languish, or fall unripe: it presents, generally, a great number of mountains, which, though less elevated than Pierre-Sur-Ante and Pila, nourish some vines and other trees, with shrubbery and plants common to cold countries. On the whole, those two departments produce almost every thing needful to life, different kinds of grain, good wines, fine fruits, pastures, flax, hemp, coals, and wood for building.

§ 117. *Jemape* (Austrian Heinault)—Owes its name to a village, where was fought in 1792, a battle that decided the



## SOIL.

late of the low countries. Few departments present within such close precincts so much diversity of soil: in general of uncommon fertility, it admits almost every where of cultivation, and even where it is denied, it abounds in many productions. The cantons of the north to the north west and west, comprising the first arrondissement, and part of the second, abound particularly in corn; the rest is rich in minerals and woods for building.

### MOUNTAIN LANDS.

§ 118. *L'Ourthe* (Liege, Limbourg, and Stavelot)—affords a soil much varied. The banks of the Meuse are lined with calcareous rocks; on the left the ground is flat, or gently declining; on the right it rises gradually, and is topped with mountains. Beyond Limbourg, and in the Stavelot, are found heaths and turf, stony land, and mines of iron and calamine. The part known by the name of *De Hesbage* is very fertile, generally much grain is produced, besides its yield of coals.

§ 119. *Sambre and Meuse* (Comte de Namur and part of Luxembourg)—Watered by those rivers of the same name, and cut up by rivulets, this department is rendered fertile, particularly Namur. The borders of the Meuse and the Sambre yield excellent pasturage; there are mountains covered with forests: many contain mines and quarries. The part attached to the Duchy of Luxembourg is arid; entirely in barrens.

§ 120. *La Meuse Inferior* (Liege and Gueldres)—Contains many heights, and there are also some extensive plains. The valley of the Meuse is extremely fruitful; its soil is composed of alluvial earth, of different depths, over a stratum of gravel. In the cantons of Sauquemont, Ruremonde, and Venloo, the soil though argillaceous, is easily tilled, indicating the presence of calcareous earth or sand. In the canton of St. Trond, the argil prevails more, and in that of Hasselt, as in some others, the soil is sandy.

§ 121. *Pyrenees Orientals* (Roussillon)—Is a calcarious soil, generally. Its mountainous surface is stony, dry, and barren; but its valleys are fruitful in corn, fruits, and pasturage.

§ 122. *La Loxere* (Languedoc, le Gevaudan)—Is a cold, unproductive district: its territory is divisible into three regions distinctly marked: the north called the *Mountains*, of granite or basalte, the south and west called *Causse*s, is calcarious; and lastly to the south east, formed by the Cevennes, it is of schist.

§ 123. *Le Cantal* (Auvergne)—Is dotted with mountains, which appear to have been volcanoes; they are covered with snow great part of the year; the soil is light and sterile. Its pasturages are its only resources.

§ 124. *La Correze* (Bas Limosin)—A mountainous district. The north part appears to have sustained a violent concussion; the ground lies in mounts and vallies, cut up by torrents or rivers, containing little vegetable earth. The eye meets every where sterile heaths. That part to the S. W. is more fertile; however, it may be said of Correze, that the earth is richer in its bowels than on its surface.

§ 125. *La Haut Loire* (Languedoc, le Velay)—Is very rich in pasturage, intersected by high mountains; there is throughout no considerable plain; the soil is nearly uniform, that is, covered with volcanic matter, lavas, and pizzolanes of all kinds. The mountains are covered with snow several months in the year, as in the Cantal; but the ground is less sterile.

§ 126. *L'Ardeche* (Languedoc, le Vivarais)—Towards the east the borders of the Loire form a plain of considerable extent; the department is very mountainous, and contains many granite rocks. The soil is sandy, producing little corn. The low grounds yield tolerably rich pasturages.

§ 127. *La Drome* (Dauphine)—In the whole of this department mountains only are seen, abounding with minerals of all kinds. The soil is, in general, meagre and sandy, not retain-

ing moisture, and the frequent washing of the declivities, adds to its dryness; however, thanks to the labour of the farmer, La Drome is not unproductive.

§ 128. *Les Hautes Alpes* (Haut Dauphine)—Watered on the east by the Durance, is thick set with rocks and glaciers, and cut up by many torrents and precipices. Two-thirds of the surface, at least, is mountainous. In the remainder, the soil is a vegetable stratum, but not deep and liable to be carried off by the torrents. The rest of this country is rich in pastures, olives, and wines; but yields but little corn.

§ 129. *Les Basse Alps* (Haute Provence)—In which is found four kinds of soil, the quartzeous, the calcarious, the volcanised, and the bottoms, composed of various deposits, from the preceding three. The climate is a little cold, and the land in general arid, gravelly, rocky, and sandy; it produces, however, grain and delicious fruits, and feeds some of its neighbors. The fertility may be ascribed to the industry of its inhabitants.

§ 130. *Les Alps Maritimes* (Le Comte de Nice)—This department, watered in part by the Var, contains few plains, of course, is less fertile in corn, than in wine and oil: it has high mountains on the north for shelter. The temperature of the coast is so mild, as to render it a most healthy and pleasing residence.

§ 131. *Le Var* (Provence)—Washed on the east and south by the Mediterranean, is dry and hot, affords but little corn and pasturage, but yields olives, oranges, citrons, and fruits of various kinds.

§ 132. *Les Bouches du Rhone* (Basse Provence)—The Rhone divides this department into two parts, of unequal length, which differ in the quality of the soil. From Marseilles to the estuary of the Rhone, the soil appears visibly to be formed of the remains of marine bodies, tho' the coast, towards the Var, is a selva of either sand, schist, or granite: to the south east of Arles is the canton de la Crau, a stony plain, of 224,000 arpents, where there is little vegetation. IR

this district there are many uncultivated mountains; but what is fit for tillage is carefully husbanded, and rendered productive.

§ 133. *Vaucluse* (Comtat Venaissin)—Owes its name to a fountain, celebrated for the amours of Laura and Petrarch; is watered by many little rivers which run into the Rhone. Its soil is a rich loam and a white calcarious clay, and produces abundance of excellent fruit.

§ 134. *Le Puydedome* (Auvergne)—Presents on all sides high mountains, on which are yet discovered the remains of ancient volcanoes, which render the soil dry and sterile; but amidst this imposing mass, Nature has placed the Limagne, a flat calcarious valley, watered by the Allier, and on all sides by rivulets, rendering the whole country enchanting. The soil is one of the best in the world, being of marl, intermixed with vegetable decompositions: some naturalists give it a depth of twenty feet.

§ 135. *Le Mont Blanc* (La Savoie)—Takes its name from a mountain, the highest perhaps in Europe: it overtops the highest mountains around it, a thousand toises, and which are also, like it, covered with perpetual snow. The glaciers present a picture, fearfully majestic, and fill up the spaces between those Alpine summits, forming of themselves a kind of valley, extending often many leagues. The ice is successively piled up here, for ages, to the depth of 80 to a 100 feet, and even of 100 toises. There is little of the land susceptible of culture: there are several lakes and little rivers.

§ 136. *Le Leman* (Le Pays Genevois)—The borders of the lake of Geneva, and the Rhone, present the most picturesque appearance: they are in general of great fertility, producing corn, fruits, and wine. The other parts of the department are mountainous, unproductive, leaving little resource to agriculture.

§ 137. *L'Isere* (Dauphine)—More than one third is composed of high mountains, divided by deep valleys, from whence torrents are precipitated. These mountains are part of the

**Alpine chain, on which they are abutted: they may be divided into four classes—little hills, cultivated to the top, forests, naked rocks, eternal snow, and ice. In the west, good wines are raised, and, in the east, there is some very good pasturage.**

§ 138. *La Liamone* (Corsica)—Of this department three-fourths is mountainous, or rocks and marshes, affords minerals of all kinds, and good wood for building. The soil is poor, and badly cultivated: it produces different kinds of grain and fruits, but hardly enough to nourish its inhabitants.

§ 139. *Le Golo* (Corsica)—The soil is unequal: the vegetable earth in that part comprised within Calvi, Bastia, Corte, and Cervione, rests on shelves of schist, or calcareous rocks. The earth is, in some parts, ferruginous; but generally masses of granite, and currents of lava, prevail, mixed with feldspath, sometimes with black masses, or with both.

The principal productions of the department are—corn, of all kinds, oranges, pomegranates, olives, and very good wine. There is also marble, jasper, porphyry, &c.

§ 140. *La Stura* (Marquisat de Saluces et de Ceva)—A step cannot be taken through the gullies of the mountains without meeting a stream, from Mount Viso, where the Po arises, to the Argentiere, whence springs the Stura; La Vraitia, La Maira, La Grand, and a hundred less considerable, divide the great valley into a number of smaller ones. Rich vallies, good pasturage, and a fine vegetation, compose the physical aspect of this department.

§ 141. *La Doire* (duche d'Aoste, province d'Ivree)—Owes its name to the river Doire, *Dorea Baltea*, a small stream by which it is divided into nearly two equal parts. The soil, even in the cantons near the Po, is unlevel, and abounds with steepes; but it is, towards the north, by the valley of Aoste, that the mountains may be said to be heaped one upon another, in a style wild and irregular. From the heights, however, standing apart, and leaving an interval, we have the valley of Aoste. All the department, the north particularly, is enriched by mine-

ral springs, iron, and other mines. Near Yvrée there is much hemp cultivated.

#### SANDY LANDS.

§ 142. *L'Indre* (Berry)—Is abundant in grain, fruits, and pasturage. The soil is, in general, sandy, or gravelly; but there are some good grounds, as those which rest on a stratum of calcarious stone, near Vatan, or on the quarries of Chateau-roux.

§ 143. *Le Cher* (Berry)—Furnishes abundantly the necessities of life, as corn, wine, hemp, wood, &c. also a large quantity of superior iron, a kind of clay fit for porcelain, which has been tried and approved at Seves. In many places marl is dug, and there are quarries of limestone. There are two sorts near Bourges, one is white, soft, and hardens on exposure; the other is hard, and is burnt for lime.

§ 144. *La Creuse* (la Marche and part of l'Auvergne)—Contains many mountains and rocks, is an arid soil, consisting of sandy and friable earth, some on a calcarious, some on a granite bottom. Its produce is in pasturage, and some rye, barley, and oats.

§ 145. *La Haut Vienne* (Limosin and Marche)—The mountains are not considerable, yet serve to render the air rather cold. The soil is not fertile.

§ 146. *La Sarthe* (Maine)—This is among the most fertile. Its territory is marked by the routes leading from Alençon to Chateau du Loir, and from Ferte Bernard to Sable, re-uniting at Mans, in a right angle. There are mines of iron, and quarries of marble and slate.

§ 147. *La Mayence* (Maine)—Its name is from the river which traverses it throughout, from N. to S. on the banks of which is fine pasturage; there is but little produce of grain, but it yields much flax and hemp, and some vineyards.

## THE PRODUCTIONS.

§ 148. If facts proclaim not the territorial riches of France, the geological table itself will attest that a soil so varied must furnish an immense mass of productions, useful in every view, as raw materials, for each species of industry. Under a clear sky, and temperate climate, vast and fertile plains, divided at distances by chains of hills, equally fit for husbandry; these, furrowed by numerous streams, the parent sources of countless rivulets discharged to irrigate the adjacent grounds: yet nature, in throwing with a prodigal hand, the most precious seeds, on a favoured soil, has scattered them with a wise variety, a marvellous economy, without disturbing the political and geographical unity of the state; producing thereby an active, mutual, and continual exchange.

§ 149. It may be remarked here, that in viewing France as divided, nearly in the centre, by the forty-seventh degree of latitude, into two parts, one north, and one south; it is in the north part we shall find, native, her greatest poets, and in the south her greatest writers, philosophers, and politicians. To render this remark more perceptible, it may suffice to mention, on the one part, Malherbe, Corneille, Racine, La Fontaine, and Rousseau (Jean Baptiste); on the other, Montaigne, Montesquieu, Jean Jacques, and Mably. We have ourselves seen, amidst the brilliant assemblage of talents which shone in the Constituent Assembly, three deputies of the south, Mirabeau, Maury, and Barnave. It does not proceed from hence, that we are to find poets only in the north of France, and orators in the south, but it may at least be inferred, that the calm temper attributed to the people of the north, is not less necessary to the poet, to guide and regulate his enthusiasm, than the warmth of the south is to the philosopher, to animate and enliven his reflections.

§ 150. In agriculture we have the source of commerce; it

affords the primary articles of exchange; it yields, directly or indirectly, the vegetable or animal products, which nourish the different manufactures, passing through all the channels of commerce, interior and exterior. The chief object of agriculture, in a strict sense, is the production of corn, or of other plants, directly appropriated to the nourishment of man and animals employed in husbandry.

§ 151. The riches of France, in corn, is immense; for besides the ordinary consumption, augmented by the war, there remains a sufficient quantity of grain to afford a considerable foreign trade. After these primary productions, come those related, in the second degree, to agriculture, deriving a part of their value from manual preparation; as wools, silks, wax, and all the products of animals—the hemp, flax, oils, wines, and woods, for all uses.

§ 152. The wools, fine in some departments, and in others of a different quality, are neither plentiful, nor yet fine enough to supply all the manufactories of cloth; but they suffice for the fabrication of stuffs, fit for the commonest citizens. And besides, the introduction of Spanish rams among our flocks, has so happily succeeded, that at present a considerable number of the improved stock yields a fleece as precious as that of Spain.

§ 153. Silk, less beautiful, it is true, than that of the Levant, yet is still of service for the west of fine stuffs, as velvet and satin. It is desirable that the cotton shrub should be cultivated, but it succeeds only in warm countries, and has not succeeded even in Corsica, into which it was transplanted. In the south, however, particularly in the department of Landes, cotton has succeeded.

§ 154. The departments of (late) Belgium, and those of Normandy and Brittany, produce flax, employed in the facture of finelinen, laces, &c. and which employs many hands. Amongst others, the lace-working, exclusively allotted to females, procures a good subsistence to a vast number of persons. After



flax, we may mention hemp, so useful in the marine, agriculture, and the mechanic arts.

§ 155. The oils should hold a distinguished place, when recounting the products of nature. The soil of Provence, in particular, is covered with the best trees, the celebrity of which is every where known; and there is also oil made from their flax, hemp, poppies, walnuts, beech-nuts, &c. but which is of a quality inferior to the olive: it is consumed in aliment, or made into castile soap.

§ 156. The prodigious quantity of vines, and the wine they produce, forms one of the most lucrative branches of the French commerce, and affords a great number of inhabitants a certain means of support.

§ 157. Several extensive forests, mountains covered with wood, furnish fuel and timber. The marine may be served, in a great measure, from the Pyrenees, the Alps, and the Vosges, if the means of transport is discovered. We cannot forget the sea-wrack, that grows along the beach, which, if it does not replace the barilla of Spain, in the manufacture of soap, at least furnishes an useful article to the glass-works; and the wood and madder, which may be cultivated in many places, though they yield not the finest colours, like the cochineal and indigo, they are, however, of great utility, where permanency of tint is required. Saffron, also, is common in France: that produced in the department of Leiret, and its neighbourhood, is of superior quality. But to give a more precise idea of the riches of France, in an elementary form, we will arrange them thus: 1. Animal productions—2. Vegetable—3. Mineral.

§ 158. In the *ci-devant* Austrian Flanders, the race of horses is proper for war or agriculture. Mont Tonnerre affords horses fit for light troops. In L'Ourthe, Sambre, and Meuse, they are small and vigorous. In Furnes, of enormous size. In Tournay, they are vigorous and active. At the depot of Versailles, are twelve stallions of the best breeds, and

at Rambouillet, four colts, one stallion, seventeen elegant mares, and twelve foals. In Normandy, there is that fine breed, so suitable for carriages, saddle, or war, but which have been frightfully depreciated by the introduction of English stallions, in giving them bad shoulders particularly. In the lower Seine, the race of Norman ponies is pretty numerous. In Calvados, there is a stud at Bayeux. In L'Orne, their stock is numerous, and the goodness of the breed attracts from Spain a demand for the use of their cavalry. In the department of Mayenne and Loire, is the valuable race of Anjou, the stud has twelve fine stallions. Deux Sevres affords the *Poitevin* race, as Vienna does *Poitevin* mules. In L'Allier, and La Nievre, is a breed, vigorous, strong, and easily fed; as also, in Bourgogne, Cote d'Or, and Yonne. Du Gers, very small, full of fire and vigor, show the tincture of Spanish blood. The *Navarrine* race extends through the departments of the Pyrenees, lower, upper, and eastern, and in the Arriège. This species is remarkable for elegance, nobleness, and vivacity, fit for war, or the manege; much of its good quality depends on the soil, though the breed has degenerated. On the higher Alps they breed mules entirely.

The *Provençal* horses afford two distinct races. The mouths of the Rhone feeds a kind that lives and copulates in a wild state nearly; they are lively, vigorous, and swift. In the Lower Alps, they are of a white colour; and some communes, along the Durance, have in vain endeavoured by studs of black stallions to change the colour, which is always reproduced in the foals, from their white dams. The breed, *Corse*, is small, but of excellent limb. Those of the Liamone are finely proportioned.

§ 159. The total number of horses in France is, viz.—

## PRODUCTIONS.

73

|   |                  |
|---|------------------|
| For husbandry                               | 1,500,000        |
| In Paris                                    | 35,100           |
| In the other cities, and for carriages      | 200,000          |
| Army, in different services, in the year 10 | 100,000          |
| Total                                       | <u>1,835,100</u> |

The skin is of small value; the leather made of it is apt to become dry: it serves for harness and coach leather. The manes serve for sieves, bed covers or quilts, easy chairs, cords, and they decorate the tops of caps; mixed with ox's, the hair serves for stuffing, and the hoof is used in comb-making.

### MULES AND ASSES.

§ 100. In general the mules do better than horses, for mountainous service; they are sought after particularly by the dealers in flour; by the Italians and Spaniards, who have pride in equipages of superb mules; many are sent to Turkey, the Barbary states, and into the colonies, where they are preferred to horses, from their supporting the heat better.

In the department of the Sambre and Meuse, there are, perhaps, two hundred and thirty asses, of sorry appearance. In the department of L'Aisne, the asses are numerous. At the stud, at Rambouillet, are two first rate asses of Tuscany, sent by the Grand Duke, to the Executive Directory.

There is a breed of asses, in some of the departments, Les Deux Sevres, &c. of superior height and form. In that country they are called *animals*, also, *bourriquets* and *baudets*. They are heavy, strong limbed, and their hair is six inches long; the dimensions of their hoofs are the double of that. They are said to be very vicious and ferocious: one will serve a hundred mares in a season, for more than twenty years, and give out only with age. Those most esteemed have very black hair. The race has diminished in number. Their qualities should be investigated.

In the Cantal is reared those favorites, called "*Acergne Mules*." In Gers, also, they rear many of these animals,

which are sold, at six months old, for as much as horses of three years: they are for the Spanish market chiefly. The fairs of Puylaurens, Acq, Toulza, Granchet, and Alby, are the principal marts of this trade.

The asses of the Drome are small, and with the mules, serve for husbandry: in general, the Dauphiny race of those animals, though diminutive, is of good figure, and might be easily regenerated, by crossing with those of Piedmont and Italy. The handsomest are used in the vallies of Piedmont and Queiras, but the greatest number are bought up in the west of France, and sold again, to advantage, after two or three year's service.

There are few parts of France destitute of those animals. The milk of asses is a well known remedy for pulmonary complaints. Of the skin is formed sifters, tambours, shoes, and parchments: it has been judged fit for morocco; and the ancients are said to have made flutes of the bones.

#### OXEN AND COWS.

§ 161. The fertile grounds of the northeast are covered with flocks. The lower Meuse sends annually 10 to 12,000 head to the markets of the interior, and about a 100,000 are fed in this district. La Roer also fattens many, drawing its young stock, in part, from other countries. The vicinage of Nempen furnishes very good butter. La Sarre and Les Forets follow this part of husbandry with success. The oxen of L'Ourthe are small, but well made; though they amount to not more than ten thousand. In the Sambre and Meuse, they sell their cattle in their lean state, to the brewers of the Dyle, from whom they repurchase them when fat: they yield good butter. The calves are sold when very young, yet they yearly tan 44,000 skins. The Deux Nethes has attained a high degree of perfection in its stock; its butter and cheese are objects of a lucrative trade. In the Dyle, in some cantons, the oxen are very large, and are used in the plough. The cows are of a grand species, and yield butter and cheese of the first quality. The butter of Ander-

locht, and La Compine, is famous. It is in the department of the Seine and Marne that the cheese is made, so esteemed, and known by the name of "De Brie." It has been remarked, that the native cows give a quart of milk daily more than the foreign. The department of the Seine is more celebrated for its consumption of *horned* cattle, than for their production.

For Paris the annual consumption is estimated at—

|        |   |   |   |   |   |         |
|--------|---|---|---|---|---|---------|
| Oxen   | . | . | . | . | . | 75,000  |
| Cows   | . | . | . | . | . | 15,000  |
| Calves | . | . | . | . | . | 108,271 |

The weight, allowing for each ox 350 kilogrammes, for each cow 250, and for the calves 60, gives a total of 36,155,310 kilogrammes, or 72,810,620 lbs. of meat. The markets of Sceaux and Peisy, where the cattle are brought, are the principal depots of this supply.

The national establishment of Rambouillet, department of Seine and Oise, has, in cows without horns, 19; Italian cows, 16; of mixture, 11, including increase: all these animals are choice.

The rearing of horned cattle makes a part of the husbandry of Normandy, and is practised with intelligence, as well as the rearing of horses. One horse is supposed necessary to eat up the refuse pasture of ten oxen. The vallies of Neufchatel, afford a very delicate cheese, formed into elongated and cylindrical shapes.

Le Calvados feeds a great number of horned cattle, the greatest part of which are taken up for the Paris market. The farmers have succeeded in improving the breed, by introducing, during the last twenty years, the bulls of Holland. Their cross, with the native cows of middling size, has given a progeny both large and heavy, say, 1400 lbs. Here is made the butter of Isigny. In the Loir and Cher, some flocks of Swiss cows have been formed, which afford good promise. La Sarthe affords a kind of oxen called "*Manceaux*," remarkable for gentleness; they are reared with peculiar care; their tallow is

abundant, and hide middling, though their figure is but ordinary; the heaviest do not weigh above 800 lbs. The "*Bourrets*," of Auvergne, is a species very fine, and much prized; the meat is solid, and good otherwise; their weight is about 6 or 800 lbs. In Le Tarn, the race is small and little esteemed: they preferring the cows, in the labour of tillage, to the oxen. The Isle of Camange, at the mouth of the Rhone, feeds numerous flocks; the breed is active, and is remarkable for the thickness of the hide.

It will be seen, that the northern part follows the fattening of cattle, after the south has obtained, previously, several year's service of them in the labour of agriculture. The hides are an important part of the produce of our cattle; but they are far from sufficing. Considerable imports are made from America and Russia. The balance of commerce having, it appears, risen, in 1787, by the specie applied in this way, to four millions of dollars: the tallow made into candles; the hair used in stuffing, plastering, &c.; the hoofs used for making combs, boxes, lanthorn leaves: the last an extensive manufacture. The marine uses many of them. The bones, those of the shoulders principally, are made into button moulds. This is an easy and simple employ for soldiers. The blood is employed in the manufacture of Prussian blue, and in refining sugar: it is infused through the area of barns, to render the surface more solid. The calculation for the whole of France gives

|                  |   |   |   |                  |
|------------------|---|---|---|------------------|
| For working oxen | . | . | . | 3,808,000        |
| Fattening do.    | . | . | . | 404,500          |
| Below maturity   | . | . | . | 456,000          |
| Cows             | . | . | . | 1,016,000        |
| Total            |   |   |   | <u>6,084,500</u> |

#### SHEEP AND GOATS,

§ 162. These form the smaller farm stock: their breeding has been progressively improving; the introduction of

Spanish rams, crossing the French ewes, thereby improving the length, fineness, and elasticity of the fleece.—English rams have, in some instances, been obtained. Our manufactures are now furnished with wool for cloths and cassimeres, which will not yield, in comparison, with the best of the English fabrics.

There are found, in France, various races of sheep, each valuable in its class. The department of Ardennes furnishes but few of the very fine sheep, to which it gives name. The department of the north, the *ci-devant* Flanders, has obtained from Holland the fine race of sheep, long and fine woolled, and deep bodied, which the Dutch had imported from India, and which, increasing in numbers, have obtained the name of Flemish sheep. But it is from the establishment at Rambouillet that the amelioration is chiefly to be ascribed, formed of an import of 866 head, of which 41 were rams, purchased in Old Castile. The pasturage near the sea gives delicate mutton, and good wool.

In the Leman, citizen Pictet has introduced the merino breed. A shepherd's school has been founded: this useful idea should be extensively known and imitated. Goats also, are here numerous, to the injury of the woods—also in Mont Blanc, and in D'Ain, where the cheese (*Chevroton*) is made, that is sold at Lyons.

In most of the departments habit and ignorance prevail, and repress this species of industry below its proper mean: it demands much encouragement and instruction. There are at present five establishments for this purpose, Rambouillet, Perpignan, Creissy-Sur-Seine, Dun-Sur-Auroux, and Montbar.

Total number of sheep, 30,307,728

According to the calculation of Arthur Young, the average weight of the fleece is three pounds, unwashed. The million of animals improved by the merino cross, give 6 to 8 lbs. On those data, the produce of wool may be given at 51,887,218 kilogrammes; or, 106,077,048 lbs. This quantity, which ap-

pears enormous, is far from yielding a supply to the factories when in full activity.

After the wool, the most considerable articles of the carcase of the sheep are, the tallow and skins. The average of tallow, for each sheep, is 5 to 7 lbs. and is more esteemed than that of the ox. The skins make housings, seat covers, leggings, breeches, work bags, shoe linings, morocco, and parchment—fans, gloves, &c. are made of the scarf skins; and surgeons use it for trying their lancets. The bones calcined give polish to marble: they are worked in the manner of ivory, and sometimes in cabinet work. The cat-guts, and spinning wheel cords, are also obtained from the animal.

On the subject of goats, they are found to be noxious to young trees. In the department of the Rhone, they are fed in the stable, which succeeds perfectly well. The flesh is used more generally in the south than in the north; when salted it loses its disgusting flavour. The hair is used by the tent-makers, and hatters. It is spun to make camlet and saddle cloths, loops, buttons, and other mercery. Of the skins are made—shoes, parchments, bags, moroccos. Those made of the Corsican goats equal those of the Levant. The goats of Angora begin to spread; their pile is long and fine: their crossing with the common race is fruitful, and in a little time will suffice.

#### FIGS.

§ 163. In the north east, the lower Meuse feeds more hogs than neat cattle: much is consumed in the country, and part is sold in Holland, for the marine. Limbourg, in L'Ourthe, feeds 40,000 head. The department of Sambre and Meuse reckons 57,400, which gives supply to an active trade in salted provision. Their feed is chiefly potatoes half baked, as recommended by Parmentier: by this regimen they obtain the weight of 140 to 180 lbs. Their atting is concluded by mixing their drink with barley, oats, or rye meal. Parmen-



tier recommends the Chinese breed, from early fecundity, a milder character, a ready disposition to take fat, and yielding more to care. The annual consumption of France is supposed to be nearly 400,000 head.

The wild boar is common in all the large woods of France; its flesh has the wild taste.

## WILD ANIMALS.

§ 164. The *Wild Boar*, and *Foxes*, and *Wolves*, are in considerable numbers in many parts of the mountains and woody countries. The ravages of the wolves, in many departments are alarming, owing, in part, to the nonpayment of the premiums for their destruction. Among many expedients offered for destroying those animals, we quote the following. The first consists of two needles, tied in form of an X, with horse hair, and pointed at both ends. After bringing them together, at the points, and thus forcing the hair, by which they are bound, and then tied with a piece of gut, or meat, of middling size, these pieces are scattered in the places frequented by the wolves: they are swallowed nearly whole, and the digestion which ensues, disengages the ligature, and restores the form X, which, pricking the stomach of the animal, causes its death. The second expedient is proposed by the Abbe Rosier, who served himself of it with effect. Take an old dog, goat, or sheep, and introduce into the flesh a sufficient quantity of *nux vomica*, finely pulverised, the meat to be then smoked to destroy the human odour; a dog is preferable, as another animal of that species will not attack it. Cloaks are made of his furs, and of his teeth are made corals, and polished for jewellers. gilding, &c. The fat is supposed to cure various complaints, and the liver is said to be a specific for the cough. The *hare* and *rabbit* afford valuable furs, and the flesh is good to eat; the *squirrel* is also eaten, in some parts. These furs are used by the latter.—The destruction that ensued during

the revolution, has much lessened this traffic. The rabbit is a voracious and destructive animal.

The *deer*, very destructive animals to those near the forests; they have become, in turn, the victims of the peasant's vengeance, during the revolution.

The flesh of the fawn is good: the horns are made use of by the cutlers and cabinet makers. The young shoots of the horn is eaten, in its tender state. The buck horn raspings is an astringent of use in medicine. The skin is soft and durable. The *buffaloe*, of which the skin is employed more than any other, in the equipment of troops, is not yet naturalized in France. Fourteen are fed at the establishment of Rambouillet: they are said to be very vicious, for which their bad rearing may be suspected. They are strong and laborious, and two buffaloes will draw as much in a carriage as four horses.

#### FOWLS.

§ 165. There are, in all the farm yards of the French, domestic fowls; though all are not equally rich in this kind of wealth. In some parts, they are numerous, beyond consumption; in others, below it. They form a considerable branch of trade. They tend to diminish the consumption of quadrupeds. Sixty to eighty turkeys cost the farmer less, and brings him in more, than the best animal of his flocks. Two seasons bring fowls to perfection—several are necessary to bring an ox to the marketable state. Eighty turkeys yield more nourishment, than the best fed ox. Few oxen weigh 800lb. the mean weight of eighty turkeys: this may serve to show the importance of the fowl yards. In Maine, Normandy, Guienne, and Languedoc, where they abound most in poultry of all kinds, they derive from it an extensive commerce. They salt geese, for the year's consumption, as they do pork in other countries.

The relative value may be thus taken:

|         |   |   |                   |
|---------|---|---|-------------------|
| Hens    | . | . | 1 franc           |
| Capons  | . | . | 1 do.             |
| Ducks   | . | . | 1 fr. 20 centimes |
| Geese   | . | . | 2 fr. 50 centimes |
| Turkeys | . | . | 3 fr. 25 centimes |

The *Goose* may be deemed the most interesting of domestic fowls. It gives profits superior to the pullet; which latter is wrongfully preferred in the fowl yard. They abound in *Du Turn*, the fields being covered with them. The goslings reared in Sologne remain only till harvest: they are sought for from a distance of twenty leagues, and are carried as far as Beauce, where they are put to glean. The geese of *Du Turn* are of a particular species, not common enough: they are heavy and nearly as tall as the swan, and are distinguished by a lump of fat which hangs from the belly, between the thighs, in some cases reaching the ground. At the age of four to five months, this fowl weighs sometimes 25 to 30 weight, net. To preserve it a long time, it is cut into pieces, salted, and baked in its own fat, and potted for use; but the legs and wings, only, are thus used. As the geese take fat, the liver enlarges, and to give it an extraordinary bulk, greater than all the other viscera together, they are closely shut up together, and their feet nailed: they blind and throttle them in such a way as to prevent their drinking, in order to load them with fat. The eggs, though good to eat, are inferior to those of the hen; of course are not much in use. The down is an object of importance: that of the gray is preferred to that of the white goose. Powder puffs of the skin, are sold for swan's.

*Turkeys* will ever prove a valuable addition to our fowl yards: it belongs not to Europe, as some believe—it is a foreigner in our climates, originating from America. Those to whom we are indebted for it, deserve our gratitude. Though natural to our climate, at this time, it yet loses much; nor shall we ever be able to restore the size natural to it, in

its native country, by any degree of pains. It is true, we have monstrous large turkeys, but they are only relatively so: their size is the effect of art—the others are large by ordinary means.

The *Duck*, though common, is not so numerous as the goose and turkey, not being, as the others, an object of trade. The *Muscovey duck*, is in repute for size, fecundity, and facility of fattening; and claims a preference above all others: the drake of this race couples with the common duck, and always improves on the stock of the latter. This progeny is preferable to the common duck for the table, is larger, and not noisy.

The *Hen*, of all other fowls, is the most common: it is every where found in abundance, and sought by all, for its eggs and chickens. In most departments they run at large. The mode adopted to bring the fowls to an excessive degree of fatness is—by confining, high feeding, picking off the feathers from the head, neck, and belly, and putting out the eyes. The species of food varies, according to the place: in some parts, it is bran and barley meal; in others, millet, but mostly maize.

The *Wild Goose* is worthy of attention, being capable of being brought into domesticity, by breeding in. The *Guinea Goose*, has been brought up in Sweden, Russia, and Germany: it is much larger than ours—it multiplies in the tamed state; and by crossing with the common goose, produces a mixed race of a very fine appearance. The *Friezeland goose* is larger than any of ours: it has transmigrated without degeneracy. The *Canada goose*, is reared in the garden of plants, in Paris: it surpasses, in size, and beauty of plumage, any goose of France.

The *Wild Duck* is less rare than the wild goose: they migrate, in flocks, like it, during the winter. The *Swan* is rare, though very readily naturalized to the climate of France: they are found wild in the departments of Loire, and L'Ourthe; and the tame are fed in ponds, or on canals, in

many places. The *pigeon*, is of various uses—in eating up the refuse of wild and other peas; for which it has a preference, and which are so prejudicial to the grain fields. The produce of the pigeon houses must be advantageous—they cost little either in trouble or expence. The large cities consume many pigeons: Paris alone consumes 100 dozen a day, at 16 sous a pair—yields 480 francs, annually 175,200 francs.

The *Bustard*, after several essays, has at length been domesticated, in the department of Du Cher. There is hope that this large bird, whose flesh is plentiful, and whose fecundity is ascertained, will lose its natural wildness, when domesticated with others.

## TURTLE.

§ 166. That small kind, called *mud*, is found in the marshes, and stagnant waters where aquatick insects, on which it feeds, are abundant. It advances on land in autumn, where it makes a hole where it may remain in winter; in the summer it is generally above ground: it multiplies in some places amazingly—so many were found in a marsh, in the plains of Durance, that they sufficed for more than three months for food for the neighbouring peasantry. They are of use in gardens, which they cleanse from many insects: they are raised in a sort of domesticity in the south, and do no damage; in some places they are kept in crawls and fed with bran, meal, broken bread, &c.; but if they are at liberty in gardens, they must be kept from fish ponds, as they will attack the fish, even those of considerable size.

## FROGS.

§ 167. The common frog furnishes an aliment very healthy and agreeable many are eaten in some parts of France, though in others they are viewed with horror. The hinder parts only are used. They are not at present generally relished at Paris, though still to be had in the markets: it is near a century

since they were in that city, a diet *a la mode*. A person from Auvergne has been named, who made a considerable fortune by fattening frogs, in a suburb of Paris, which had been transported from the former place, of which they were native. The frog soup is highly recommended by physicians.

## FISH.

§ 168. Fresh water fish are not transported by land, except some particular kinds, as the carp, which are carried in hogsheads, filled with water: the others are consumed on the spot, where taken. In the time of Savary, the trade, in fresh water fish, in the department of L'Allier, was estimated at 300,000 francs a year. Following the author, cited by Peuchet, the fish trade from the transportation, may circulate about forty *bascules* per annum, destined for Paris. The amount of each *bascule* being 10 thousand fish, worth, in common, 6 or 7,000 francs: the 40 *bascules* yielding about 280,000 francs.

The department of the Nièvre furnishes also a great quantity of fish for Paris. The ruin of the ponds has diminished that branch of industry. The north part sends off at this time above 70,000. Paris expends annually for the purchase of fish a considerable sum, not less than 1,200,000 francs.

The river Seine, where it bathes the little hills of Yvetot, is one of the most abundant in France, for fish: its fishery is annual, and stationary for salmon, sturgeon, sole, eels, &c. The city of Martigues, department of the Rhone, draws a considerable revenue from fish. The town of Saint Thiebaud (department du Cher) is celebrated for its fishery on the Loire. The departments of Golo and Liamone in Corsica abound in all kinds of fine fish.

## SEA FISH.

§ 169. The fishery on the coast extends a distance of 300 leagues in length, and is carried on by small vessels capable of keeping the sea in moderate weather, or fit to bear up the nets;

or by hooks and lines in coasting boats, fishing near land. The coasters fish for ray, brett, whiting, &c. The net-fishery takes place four times a year; the first for sole, ray and others, begins the 15th Pluviose, and ends towards the 15th Floreal; the second, which begins the 15th Floreal, continues until the 1st Thermidor, is chiefly for mackerel; the third, which is of little account, affords only some small ray, limandes, &c. and lastly, the fourth, or herring fishery, begins the 13th Vendemaire, and ends about the first of Nivose. The fish taken on the coasts of Dunkirk and St. Vallery are much esteemed. The fishers of the Pas-de-Calais, and La Somme, are employed in taking mackerel. They go off in the morning and return in the evening, from Floreal to Thermidor; a few are carried into Boulogne and salted, the rest are sold fresh. The herring fishery is made principally at Dieppe, part is salted, and part sold fresh. Pilchards, mackerel, conger, and salmon, form a considerable fishery throughout Bretagne. The take of pilchards is plentiful on the coasts of d'Aunis, Saintonge, Poitou and of Olonne in particular. It is the principal branch of trade.

We know not precisely the quantity of sea-fish consumed in France; nor can we arrive near to it, but by calculating the product of the fishery in each port, nor ought we to forget the considerable importation from Holland and England. Paris alone consumes in sea fish, fresh and salted, about 100,000 quintals. The fresh water fishery is estimated to produce, to the boats engaged in it, an annual sum of nearly three millions. The sardines (or pilchards) amount to 1,500,000 francs.

The *Able* or *Ablette* is found in the great rivers. As an object of consumption, it is not esteemed—the flesh is soft and unsavory; but it is valued for its scales: it is with them chiefly, or rather the pearly matter on which they are bedded, from which false pearls are fabricated. The most ingenious purpose to be sure, in which the scales of fishes can be em-

ployed, is in the facture of false pearls ; many other fishes serve the same purpose, but the *able* is the most brilliant, the most silvery of all others.

To obtain the coloring matter of false pearl, known under the name of Eastern essence, the *ables* are scaled over a tub of water ; they are then carefully and lightly rubbed between the hands to detach the pearly substance; the first water, which is bloody and mucus, is thrown away; the scales are then washed in a large vessel of water, by a sifter; the pearly substance passes through and reunites at the bottom of the tub; it is then collected, and digested in liquid ammoniac, a little diluted with water. In this state it appears a slimy mass of a bluish white, very brilliant, in shade resembling the finest pearls, and purest grain. This is the real eastern essence: it was formerly used without being prepared with ammoniac. The necessity of that alkali to preserve it, and to give additional brilliance, was then unknown.

Its propensity to change, before that immersion, caused the manufacturers to despair of the art of making artificial pearls. This degree of perfection is due to the French. Those made at Paris are such correct imitations of the genuine pearl, that most ladies pass them for such.

The *Summer-herring* is a fish that ascends the rivers during the summer; it has the appearance of a herring, and is called in some parts the "herring's mother." This fish is used fresh only, and is taken both in salt, and in fresh water. The river fish is best, being more fat and delicate. The fish is painful to chew, from the abundance of bones, otherwise it would be in more repute. The river Loire, above others, favours this fishery: the fishers place their nets in the evening, and take them up in the morning: batteaux pointed at each end, and seines of considerable length, are in use. Many are taken in the river Seine, by ordinary nets; these are sold at Paris, and are in more esteem than those brought from Orleans. They are often taken, even in Paris, by casting nets around the bat-



eaux loaded with salt. The summer herrings, like the salmon, loves to follow the batteaux, and ascend with them, up all the rivers.

**The Anchovy.**—This little fish, which rarely attains the length of six inches, is found in all the seas of Europe: it goes in shoals, and, about the end of winter, approaches the land—Immense quantities are taken in the Mediterranean, around the coast. It is a source of wealth for the inhabitants of the maritime Alps, bordering on the sea, and is their sole employment, from early in spring, to the beginning of summer. Their implements are—fire, and nets of 40 fathoms long, and of 25 or 30 feet in depth: with the blaze of the pine they are brought together, then surrounded, and the fire extinguished; they endeavour to escape, and are caught in the meshes. Almost all the anchovies taken are cured: they are gutted, washed, their heads cut off, and packed in barrels, with salt. In Provence, the custom has been, whether well or ill devised, to colour the salt red, with ochre: the pickle is not changed, the casks are merely filled to make up for leakage. The grey salt preserves them longest, and renders them less bitter; but it is this quality that renders them more acceptable to the vitiated palates of the epicures of Provence.

The *Eel* is to be found both in salt water and in fresh: places are mentioned where thousands are taken at a haul; and the Garonne was said to be so well furnished with them, that, in a day, 60,000 have been taken. Martegues (mouth of the Rhone) draws a large profit from it: they salt 400 quintals, exclusive of what is sold fresh. Paris consumes 560 quintals. The flesh is viscous, oily, and difficult to digest, but is savoury: the skin is as firm as parchment, and is an article of trade.

**The Bar.**—This fish was much esteemed and sought after by the ancients, who paid high prices for it: it is found about the mouths of rivers, which it often ascends. The flesh is wholesome, the river fish particularly; for those of the sea are fat, and difficult of digestion.

The *Barbel* grows to the length of one foot: they are found, particularly, in rivers of rapid stream and rocky bottom. The river barbel has firm grain, white, delicate, and good flavour; that of the pond is soft.

The *Bream* is found in ponds, lakes, and rivers: they are not common in France.

The *Pike*, known for its voracity, the quickness of its growth, and abundance of its flesh, is found in all fresh waters, though less common in the south than in the north: they furnish a large article of trade, at Frankfort on the Oder, where they are salted. A single fish, if old, will depopulate a pond—such is their voracity. Paris consumes not less than 900 quintals, at 3 francs each fish: the flesh is white, firm, never too rich, scales off, tastes well, and is of easy digestion; the liver is most esteemed; the eggs purge violently, and are, in some of the northern cantons, used to produce that effect.

The *Mullet*.—Those taken at Martigues, and the pond of Thau, are much more esteemed than those taken near Marseilles: *boutangue* is made with the roe.

The *Capelan* is very common at Versailles; the flesh is sweet and tender: the most abundant fishery is on the coast of the Mediterranean, with nets of close mesh.

The *Carp* is common to all the rivers; and in an economical view, is superior to all other fishes: though to be found in all climates, it is chiefly obtained in the south: it is in slow streams that the carp is delighted, and found in the greatest abundance; here, when the food is abundant, it becomes very large; carp of 12 to 15 lb. weight is not rare in France, but it is in Germany that the largest are found: its fecundity is prodigious, but all the eggs do not become carps; some causes hinder their fructification, and a part is eaten by other fishes: it grows pretty rapidly. Without entering into details, we may observe, that it commonly weighs 3lb. at the end of six years, and 6 to 8lb. at the end of ten years: they may be kept in close

reservoirs, if the water is gently running: they may be fed with the hand, at a small expense. They are transported alive in hogsheads, the water in which is changed once or twice a day, according to the weather, and they are brought to Paris, in batteaux made for the purpose, pierced with holes, more than 100 leagues: they are preserved even in the middle of the rivers, during whole years, at little expense. Paris consumes, yearly, 20,000 quintals, at  $2\frac{1}{2}$  livres a carp: the roes are prepared in the manner of caviare, and are good to eat, but less sought than what is called *laites*: the *laites*, or semen of the carp, is deemed a very delicate food, and is sold at a high price: the tongue and palate is esteemed by the epicurists. Here we shall say something of

## FISH PONDS.

§ 179. There are in France many ponds; it is supposed they cover 500,000 acres. In point of utility, those are the best that have a stream passing through them: they are fished every third year. The dealers demand a four year's growth, but this is detrimental to the proprietor of the pond, as the difference of price would not indemnify him for a year's loss of the fishery, and the damage done by the pike. The drawing is generally made early in spring, or in autumn. The voracity of the eel is not so ruinous as that of the pike, as it attacks only the minny; but the pike attacks all others, and makes much havoc. The roach is not often put into ponds: their fry is put in to nourish the voracious fish. The carp seems proper for ponds particularly: it is estimated that there may be put 18 or 20 miltiers of *alvin de carpes*, in a pond of 100 acres of water. When several ponds are owned by the same person, who is desirous of drawing from them all the advantage possible, one is appropriated to the fry of the carp, and it is this one from whence is taken the grawl (*alvin*) to supply the others: this mode has many advantages. The most remarkable ponds, that furnish the greatest quantity of fish, are in

*L'Allier*—There are many ponds in this département: Paris consumes most of its fresh water fish; but they impregnate the atmosphere with unwholesome effluvia, producing epidemics in the summer and autumn.

*L'Ain*—Contains 1050 ponds, covering 67 square leagues: the same inconvenience is felt here as in the preceding.

*Loire*—The plain comprised in this département is full of ponds, that are dried up every two or three years. Wheat is sown there when the waters are taken off: the crops are always abundant. Thus they afford alternately fish and grain! The pike, carp, and tench, are most abundant. They are sent to Paris, where the sale is quick, from the reputation of the ponds. There are other fish of less note than the former.

The *Civetle* is a little eel found in the Loire, caught between Angers and the sea, in considerable quantities, and consumed on the spot. The *congre* or conger, resembles the eel, and is always found in the sea and mouths of rivers; great quantities are taken about Belle-Isle. About the coasts of Bretagne this fishery is said to amount to 40 thousand weight. On the coasts where the population is too thin to consume the produce of the fishery daily, the conger is dried as cod, for transportation. The fishery is made in the first three summer months. About the Isle de Grouais there are usually 30 to 40 shallops employed in it.

The *Sturgeon* is much esteemed for fine flavour. Those caught in the Loire are large. The name of caviare is given to the roe of the sturgeon. They are washed in wine, half dried in the sun, salted, and pounded in a vessel pierced with holes, drained, made up in cakes, and put in casks.

The *Herring* is a sea fish, but not found in the Mediterranean; it is, after the cod, the most useful to man. It is found on the coasts of the northern départements, the Pas-du-Calais, La Somme, La Seine Inferieure, La Manche; and Du Calvados. The wars with England and Austria have been a hindrance to this branch of industry: it had, however, amounted at

the close of the reign of Louis the Fourteenth, to 1,200,000 francs. In 1753 it yielded, it is supposed, 60,000 barrels, from which was a produce of 1,500,000 francs. In 1787 it amounted to 4,300,000 francs. The vessels employed in fishing depart from Calais, Boulogne, St. Valery, &c.; but the most extensive trade is at Dieppe. The art of fishing is greatly improved since 1750. Twelve barrels of herring make a last, and each barrel a thousand, according to the statute; 18 barrels huddled up without packing equal to a last, or 12 barrels closely packed. A barrel should weigh 280 to 300 lbs.

In 1766, there were fitted at Dunkirk 46 corvettes, burthen 2300 tons, for the herring fishing. The produce,

|   |         |
|---|---------|
| 9,546 tons of salt herrings, which sold for | 343,647 |
| And 112 lasts of fresh herrings             | 30,003  |

---

Francs 373,652

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The Calais fishmongers send them for their own account, or on commission, to Bordeaux, Rochelle, Nantes, Bourgoigne, Champagne, Flanders, and Picardy. The boat owners have a seventeenth of the fish, and five per cent. on the auction price; for in this way the fish are sold.

The Boulogne fishery supplies the departments of Pas-du-Calais, Du Nord, and Paris. Fecamp employed in 1789, near 1400 sailors in the herring fishery, in a sort of batteaux called crevelles, of 30 to 60 tons. It is said, that since the peace, the increase has been annually 6000 bls. fresh herrings, 49,550 bls. salt herrings, and 12,000 bls. smoked herrings; total 67,550.

The *Lamprey* enters the rivers in the spring time to spawn, and is then taken in great quantities—it returns again to the sea. After it enters into the rivers, the principal cartilage or vertebræ hardens, and is no longer esteemed, but it is so before, being then tender, well tasted, and nourishing. The male is preferred to the female.

The *Plaice* is taken on the coast of Bretagne, all the year: 3 or 600 quintals are put up for the Bordeaux market.

The *Brett* is soft, moist, and somewhat gluey—is abundant on the coasts of Bretagne, where it is taken in large quantities and sent to Paris.

The *Lote* is found in the lakes and rivers—it is sought after for its excellence.

The *Mackerel*.—This fish is more abundant in the ocean, than in the Mediterranean. It is caught in the night, when it is found in greater quantities than in the day, in the same ports as the herring. The mackerel enter the channel in the month of April, and advance towards Calais as the summer progresses, and is found in July, on the coasts of Pas du Calais, &c. The fishing and salting is then made, principally at Dieppe, Havre de Grace, Honfleur, and Boulogne. A last of mackerel contains 12 barrels, and each barrel four M. fish, of 1500 to the M.: a thousand of mackerel takes three minots of salt (96 to 100 lbs. sea salt). This fishery is of modern date, having been first established at Belle Isle by the intendant Fouquet. Including the other species joined to it, it amounted, at the close of the century before last, to sixteen or seventeen thousand francs: in 1787 they might amount to 2,300,000 francs. The fishery of mackerel, made by the boats of Fecamp, was on a good footing before the war. It is made either near to, or distant from the coasts.

TABLE FOR FECAMP.

| Years | Number of<br>Bateaux<br>fitted out. | Quantity of mackerel.<br>Thousands. | Value of the fish. |
|-------|-------------------------------------|-------------------------------------|--------------------|
| 1781  | 19                                  | 489,680                             | 157,370 fr.        |
| 1782  | 22                                  | 685,410                             | 240,826            |
| 1783  | 32                                  | 1,478,500                           | 362,885            |
| 1784  | 41                                  | 1,376,700                           | 325,809            |
| 1785  | 44                                  | 2,588,750                           | 420,726            |
| 1786  | 49                                  | 925,796                             | 257,617            |
| 1787  | 46                                  | 1,612,255                           | 411,322            |
| 1788  | 47                                  | 1,027,600                           | 245,052            |
| 1789  | 42                                  | 1,806,200                           | 358,725            |
| Total |                                     |                                     | 2,780,332 fr.      |

From Dieppe there went, in the year 1753, fifty-seven barrels for the mackerel fishery: the take was not uncommon. The mean of this port is estimated at 11 or 12 thousand barrels of salt fish.

The barrel at 20 francs each gives a product 230,000 fr.

The returns for fresh fish . . . 50,000

Being an annual product of . . . 280,000 fr.

The mackerel fishery, joined to that of herring, is one of the most considerable objects in the commerce of Bologne. That of the mackerel is made during May, June, and July. They are sent to the northern departments, and into the interior, but chiefly to Paris. This fish is no longer found at Calais, as formerly: the mackerel has exchanged these haunts for those of Dieppe.

The *Whiting* is found in the ocean, and is taken at Dieppe, &c.—those taken on the sands of Olonne, are commonly a foot long. At Dunkirk they are a principal object, during the months of December, January, and February: those taken all the year with the line, and from March to September with nets, are less esteemed. The flesh is wholesome, and much used at Paris, bearing carriage well.

The *Stock-fish* is taken all the year, but is more abundant and better in April and July—they are taken with the line near Brest, and by other means in sundry places. Great numbers have appeared near Belle Isle, since the naval battle of 1759: they were not seen before in those parts. Some are salted when found in great plenty. They are sold in paquets of 200 lb. each: the flesh is tender, sometimes soft, but of good flavour.

The *Mullet* is found from six inches to two feet in length: it is very common in the Mediterranean. When the take is large, the roe is prepared and made into *boutarde*.

The *Perch* prefers running water when at liberty—they are put into ponds with carp and pike: it is a good fish, and sells well.

The *Plye* is a sea fish that ascends the rivers sometimes: it is chiefly taken in the ocean. At Anvers large quantities are dried, to which the inhabitants are very partial.

The *Ray* or *Thornback*, is taken in all the ports of the channel. Paris consumes many of them: it is better after keeping a few days.

The *Roach*, very well known in the fisheries, is taken at Havre, with the drag; but it is chiefly from the point of Penmark to that of Torlinguet, that the fishery is made.

The *Roussette*—Its skin is used to decorate etwees: it is found in the English channel.

The *Sardine* or *Pilchard*—This fishery is considerable on the coast, in the ocean, and in some ports of the Mediterranean. The greatest take is on the coast of Bretagne: it commences on the sands of St. Gilles, in the month of June. The fish are sold as they come out of the water; they are salted a little, and immediately carried off to the neighbouring towns. The sardines push on in shoals, and are found sometimes in the open sea, sometimes near the bank, sometimes among the rocks and stones: these fish would but barely shew themselves on our coasts, if the people of Bretagne had not the address to retain them by means of a preparation of the eggs of the cod and other fish; this composition is brought from the north, and the consumption is prodigious: the bbl. weighing 300 lbs. is commonly sold for 10 to 12 francs, and sometimes as high even as 40. It would be certainly an advantage, if the French vessels which attend the cod fishery, would attend to the preparation of the rocs, in place of throwing them overboard, as they commonly do. The most considerable fishing is from Belle Isle to Brest: more than 300 shallops are employed in it; each containing five men, of 2 to 3 tons burthen, and fitted with 12 nets, and 20 or 30 lines. They are sold at 20 to 50 francs, and go to the markets of Spain and Portugal. Belle Isle sells at least 3000 barrels of sardines each year: each barrel contains 9 to 10,000 fish; 150 shallops are employed in it from June till October. A part of the fish



taken at Belle Isle, are taken to Vannes, in vessels called *chasses mareas*: they cure them with white salt, and in this way transport them to Nantes, Bordeaux, and other places on the coasts, from the Loire to the Garonne: the rest are salted with bay salt, and stored in this way during 15 days; they are afterwards washed in the sea, and packed in barrels after being gutted, and the oil is expressed into other barrels suited to the purpose. The pilchard, also, affords considerable trade at Concarneau: it amounts to 600 tons a year, has been as high as 1500, and commonly sells for 150 to 300 francs the ton: Cannes gives 1800 quintals. The oil is a considerable article, not to be confounded with that of the whale, though both are known by the name of fish oil: a barrel of oil is expected from every 40 barrels of sardines. The herring also furnishes oil. It is obtained only from the most numerous descriptions of fish. The oil is used by the curriers, and in all the processes of leather dressing. Pilchards are cured simply with pickle; they are sometimes called anchovies, and are sold as such. What is called in Paris preserved pilchards, are prepared in Bretagne and Charente Inferieure.

The *Salmon* is furnished by the ocean, rather than the rivers from which they are taken; it is rarely found in the Mediterranean, or rivers discharging thercinto: they ascend the Rhine in the spring in great numbers; in May they abound about Bale, but there are few rivers in which they are taken in greater plenty than in the Loire: they ascend as high as the Allier, and even to the source of the Loire; small fish are common at St. Etienne, large fish are taken at St. Chamond. In the Loire they are taken all the year; but the greatest fishery is from September to May; in February and March they are usually most abundant. The fishery of Chateaulin begins in October, is at the height in January, and so continues until April, when a prodigious quantity has been taken, sometimes amounting to four thousand: the fish entirely disappear at Chateaulin about July. Near the Issoire, at the falls of the castle

bridge, there is a very fine fishery, formerly belonging to M. De Mont Boissier, which brought him in 15 to 16,000 francs. Fresh salmon is a food much in demand; it sells at 30 to 40 sous a pound, in towns at a distance from the fisheries. The English supply us at present with salt salmon.

The *Sole*.—This fish grows large in the ocean: it is sometimes called *perdrix de mer* (sea partridge,) to give an idea of the flavour of its flesh, which is very nourishing and wholesome: it is longer, flatter, and not so broad as the *plye*. The people of Quilleboeuf are much employed in the take of this fish, which they send to Paris, by the *chasse marees*, with other fish.

The *Surmulet* is plenty on the west coast, and is in high esteem.

The *Tucand* is caught all through the year, and is used on the spot.

The *Tench* is a fresh water fish, very common in lakes, ponds, or marshes; there are few places where it may not be found: it delights in waters stagnant, muddy, or without motion. The tench increases fast, and bears carriage well: more than 10,000 are sent to Paris: those of the lively streams are most approved, but they are in general an insipid fish.

The *Tunny*.—This excellent fish enters in great numbers into the Mediterranean, passing our coasts, where they form an important fishery, called the *Madangue*.

The tunny is also taken on the coast of Bayonne, where they use lines in place of nets: the *batteau* is always under sail, and returns sometimes with 150 fish. The flesh resembles veal; the stomach is the part most esteemed, it is salted and pickled. Cut in slices and pickled, it is transported through France, under the name of *thounine*.

The *Trout* is taken in the sea, and in fresh water: the former range the coast at all times; the latter ascend many of our rivers. Though the salmon is not found near Geneva, the trout is, in the lake chiefly; but particularly at the two extremities, that is, in the Rhone of Geneva, and in that of the Valais: they

are found also in the little rivers which flow into the lake and river. What is called trouts of the Rhone, or of the Farm, are those taken where the Rhone flows from the lake, and which come from the fishery establishment there, and belonging to the city which farms them.

The large trout descend not from the lake until November: the increase of those that have descended in the spring (May) return to the lake in October: advantage is taken of their passage to catch them. The greatest amount, for number and size of fish, lasts from the 10th to the 20th of December; some of those weigh 40 pounds; those of 20 to 25 pounds are common. Those that descend are preferred to those that remount. The mode of taking them is by large nets; the most esteemed are taken in July, August, and September. La Touvre, river de la Charente (Angoumois) supplies a prodigious quantity.

The *Turbot* is well known in the fisheries; there are many kinds of them. It frequents the shores: it is found in Normandy. Very large ones are found at the mouth of the Rhone. It is called the water pheasant, on account of the excellence of its flesh; those of the middling size are preferred: the flesh is white, firm, and succulent: some of it is consumed at Paris. It is sometimes found in the rivers of the interior.

The *Sea Carp* (*Veille*) is found on the coasts of Normandy and Bretagne.

The *cuttle-fish* is found on our coasts of the Mediterranean and ocean. The inhabitants of Granville, on the English channel, employ themselves in certain times of the year in this fishery. It was a very much esteemed dish of the ancients; at this day it is disdained, even by the poor. It furnishes two interesting products—its ink and its bones: the ink is a black liquor it protrudes when menaced with danger, and covers it from the view of its pursuers: it is supposed to enter into the composition, made up in a dry and solid form, called Indian ink, used in drawing, and remarkable for its resistance to acids. The bone, light and spongy, is an article of trade: it is sus-

pended in the cages of small birds, who please themselves in pecking at it, which blunts the beak, a desideratum with those who have the care of them: it serves the goldsmiths, to make small moulds for rubbing off their work: in powder it gives a fine polish to some metals, and for cleansing and whitening the teeth. It enters also into some preparations of pharmacy.

§ 171. *Coral*—A production of the polypus kind, of a lively red, composed of animal cells, has made at all times a considerable branch of commerce in the Mediterranean. The fishers of Marseilles, and several other places of that neighbourhood, employ themselves in raising coral, during the very hot weather. It is more or less productive, according to the ability of the fishers, and many other circumstances. The fishers of coral are called corailleurs. The coral is wrought and polished at Marseilles, Cassis, and Ciotat: they make ornaments and finery of different kinds of it: it has been used, for the most part, in the African trade: it was formerly employed in medicine; but is now used only in opiates, and for cleansing the teeth.

§ 172. *Oysters*—Those most esteemed come from Brittany, and very good from Rochelle and Bordeaux: those taken at the mouths of rivers are preferred to others; but it is the green oysters that are most in request; to give them that colour the white oysters are placed in ditches of three feet deep, which are covered only at high water, in the full and new moon: there is a kind of flood gate, permitting the water to run off; about one half these ditches thus become green, and give a green shade to the oysters, from the 13th or 14th day; but they are left there during five or six weeks. In the year 10, from Vendemiaire to Prairial, 188 English vessels entered Cancale, carrying 6 to 9 men each, which have laded 119,473,000 oysters: the custom house duties amounted to 95,353 fr. 5 centimes: in London they would sell for two guineas a thousand. The consumption of Paris is estimated at about a million dozen, making at 3 decimes (6 sous) the dozen, a total of 300,000 francs per annum.

The *Muscle* is found on the borders of the ocean and Medi-

terrestrial: they are a common aliment, though but little esteemed: they are improved in quality, by being placed in a pond wherein some fresh water is introduced. as is the practice near Rochelle. The muscle multiplies in this situation at the rate of ten for one, in one year: they are better eating in autumn, than at any other time.

§ 173. The *Snail* is eaten in many parts of France, and has even become the object of a petty trade: they are gathered off the vines and fed there through the winter, during which they shut up their shell with a calcareous scale, which is detached, and falls down in the spring. The inhabitants of the vineyard country, for instance of La Meurthe, carry the snails to the pastry cooks at Nancy, who, during the winter, dress them in the shell, with fresh butter and fine herbs: they send them to Paris to the amateurs. The physicians recommend the soup of snails as pectoral and sweetening, and they furnish also a good cosmetic for the ladies.

§ 174. *Lobsters* are common on the coasts of the ocean, from whence they are carried to Paris, where they are much used in the culinary way, the consumption being rated at 76,000, yearly, though not so good here as in other places, as they grow lean on the journey: they furnish also, something for medicine, particularly what is called erroneously, "crabs' eyes," a great quantity of which was drawn from the north, particularly from Asiatic Russia, where the large rivers feed multitudes of a large size: the usage of this substance, however, which is no other than chalk, is discontinued.

#### THE BEE.

§ 175. This insect, much more precious, without doubt, before the sugar cane was planted permanently in America, is yet still extremely interesting. The wax is an article worthy of the public attention, the amount imported being considerable. France is annually debited by foreigners for this article to the amount of more than two millions; and yet the bee seems

to inspire little interest, for except in a few departments, it is generally neglected, or unthought of, as a being either good or evil. Let us inquire, what are the means of encouragement? Two offer—1. Multiply the hives by a small premium to those who make it a business—2d. Hinder the destruction of bees, which is occasioned chiefly from destroying them by sulphurous fumigation.

It is said, to justify this bad practice, that the bees would perish in winter, but the real motive is, that no honey may be left in the hive, for their nourishment during that season; though experience has proven, that the loss of the insects is not compensated by the additional gain of honey and wax collected. From the commencement of the autumn to the return of spring, many bees are lost, often the half of their number, by cold and hunger; by cold, when the winters are very rigorous, by dearth, when they are moist and cloudy, when they cannot go out to search for food. An advantageous practice, and which augments the quantity and quality of honey and wax, is by transportation of the hives from one place to another. The inhabitants of Lower Egypt carried their hives up the Nile into Upper Egypt; the same usage prevailed in Italy, there being a season in which the borderers on the Po transport their hives to the foot of the mountains of Piedmont; and even others, who reside not on the banks of rivers, follow the practice. In the departments of Loire and Cher, Eure and Loire, and Loiret, these transports are seen; each cart contains 30 to 40 hives, they travel at a walk, and even in the night, and as fast as they can, when the roads are good and level. After the harvest of Saint Foin and Vetches, when the *Beauce* is reaped, the bee owners of that country carry their bees into the Gatinais, or the environs of the forest of Orleans, when the heath and buck-wheat is in flower, the emigrations are sometimes beyond ten leagues. It is not rare to see in autumn, as many as 3000 foreign hives in a little village, where they are left for, perhaps, two months, the peasants taking charge of them for a very

moderate compensation. This mode of carriage by land has great inconveniences, in deranging the combs, and in the desertion of the bees; the carriage by water is without any objections. The hives of *Beauce*, when they are good, afford 80 to 100lbs. when of two or three years, including for the weight of the bees and hive 12lbs. and 2 to 2½lbs. for wax, the balance being pure honey. The annual produce of a hive is reckoned at six francs, and it amounts sometimes to ten.

It has been said, that all countries were not proper to raise bees in, and that in many the cost was more than the profit. There are few cantons entirely destitute of all the plants from which bees could draw honey and wax. In the north more care is necessary, but in the south nothing can be cheaper than the raising of bees. The honey most sought after in France, is that of Narbonne, though inferior to that of the Levant, the Balearic isles, but above all that of Mahon, in Minorca; yet generally, the honey is fine, and esteemed: something depends on the taking and putting of it. That of Lens le Saunier is of a very fine quality, if we except what is collected on the banks of the river Aine, where there are pines planted, though to appearance as good as the other, has a very disagreeable taste of turpentine. That of the Calvados and Lower Alps, is, by its quality, a real Narbonne, having an aromatic flavour extremely sweet and agreeable. Honey, though *animalized*, approaches nearly to the vegetable character, and possesses, for the most part, the properties of the plants that contain the saccharine matter. As an aliment it was employed by the ancients, more than by ourselves: since the introduction of sugar, it is used by the poor only. It is true that it is less agreeable than sugar, that it contains a *sapide* extract that renders it repugnant to the taste of many persons, but it is more wholesome for those who can bear it. As a medicament, honey is laxative, sweetening, emollient, and detergent; mingled with vinegar, it forms *eximel*, which is itself the basis of many remedies; it serves also to make the fermented liquor called *hydromel*, of which

there are many kinds—as, the simple hydromel, the compounded hydromel, and the vinous hydromel: this drink being little used in France, is perhaps one of the causes of the little attention paid to bees.

The Hollanders draw from the department of Calvados, every year, a large quantity of honey for making hydromel. The vinous kind is made at Metz; it has a high reputation, and is transported in quantities abroad, and from the honey a spirit is also extracted, used to give briskness and strength to cider; the proportion is a twenty-fourth.

The wax is manifestly of vegetable origin, since it is but the pollen of the anthers of flowers, conjoined with some characteristics of an animal kind, acquired in its passage to the hive, from the body of the bee. The wax enters into the composition of medicine. The wax chandler is a profession itself. The soap it forms by an union with the alkalis, is used in painting, under the term *encaustique*. It is modelled into groupes. It is used in a sort of sculpture, or moulding, as in *wax work*. Planks are covered with it on which engravings are made. It furnishes one ingredient in our sealing wax. It is used in the manufacture of wax cloths. But its use in the manufacture of candles renders it an interesting object of commerce.

The quality of wax varies—in general, the wax of those countries is esteemed most, which contain heaths, furze, juniper, and where buckwheat is cultivated. The wax of the Levant is preferable to that of the north, because it bleaches well; with that of the vineyard countries it is different. On the average there is an annual import of 10 to 15 thousand quintals. Paris consumes annually 538,000lb. weight, which, at two francs 50 centimes a pound, gives a product, all expences included, of 1,345,000 francs. From this statement we may perceive the importance of bees. The bleached wax is esteemed according to the refineries from which it proceeds. They are thus classed, viz:—1. Chateau Gonthier—2. Angers—3. Mans—4. Amboise—5. Chaumont—6. Rouen.



## THE SILK WORM.

§ 176. The insect producing silk, comes originally from China, and according to Justinian may be naturalized in all warm climates, it is next to the bee, that from which we derive the greatest advantage, in an economical view: the business of multitudes being founded upon it, and depending on the crop, which yields them a proportionate abundance, or dearth, according to the season. The quantity of raw silk collected is the thermometer of their comfort.

Almost all through the southern departments, the silk worm is raised. It is in Provence, Languedoc, and Dauphiny, that the greatest part of this article is collected. Though the produce of raw silk is great in France, yet much is imported. It is of the best quality, and no twist is equal to that of the Vivarais, Dauphiny, and Provence. The looms of those countries bear away the palm from all others.

The climate is of no consequence in the raising of this insect. Denmark and Prussia testify against the prejudice of a warm climate. The silk worm succeeds very well in those countries.

In France, there were enumerated (in 1788) 28 to 30 thousand workmen attached to the manufacture of various kinds of silk stuffs, without comprehending those employed in stocking weaving, caps, gloves, &c. These tradesmen were thus distributed, viz:

At Lyons 18,000 of which 12,000 are for figured, and  
6000 for plain stuffs.

Mimes 3,000

Tours 1,500

Paris 2,000 of whom the greatest part is for gauze

Rouen, Marseilles, Narbonne, Amiens, Toulouse, Auch, and many other places, possess the complement.

At the same period 20,000 work people were employed in haberdashery, comprehending stockings, gloves, &c. There are also 12,000 on lace works (*passementerie*) including ribbons,

galloons, &c. Paris alone has in employ 20,000 work people, in silk, millinery, ferrets, fringe, &c. Montpellier, Ganges, and their neighbourhood, reckon 10,000. Lyons 2000. Nîmes still more. In 1784 the hands employed in haberdashery was 17 to 18,000; the produce of which was estimated at 27 to 30 millions. The fabrics of haberdashery made at Paris have the most reputation; they owe their superiority in this kind of work, chiefly to the quality of the materials employed.

The number of silk mills in France at the revolution, was near 1500. The price of silk depends upon the crop, which is uncertain and difficult to ascertain, and which is the cause of the great difference of the estimates of this commodity: some put it at two, some at three millions in 1789. M. DeLabrousse observes "the silk raised in France is nearly equal to that drawn from abroad, whether from Italy, Persia, India, China, or elsewhere; namely, fifteen millions of pounds." The price of foreign silks, excepting those of China, is now nearly as low as those of France. They have lost the superiority in price, since we have learnt to make twist as beautiful as any imported. We know not exactly the quantity of silk stuffs exported from France, or imported thereinto.

|   |                       |
|---|-----------------------|
| The importation of raw silk in 1784 was | 20,582,000 fr.        |
| Silk stuffs . . . . .                   | 480,700               |
| Ribbons . . . . .                       | 374,000               |
| Handkerchiefs . . . . .                 | 115,000               |
| Gauze . . . . .                         | 54,700                |
| Total                                   | <u>30,557,300 fr.</u> |

The exportation that same year appeared to be,

|                         |                       |
|-------------------------|-----------------------|
| In Silk, raw . . . . .  | 2,557,000 fr.         |
| Silk Stuffs . . . . .   | 15,649,800            |
| Silk galloons . . . . . | 2,589,200             |
| Haberdashery . . . . .  | 413,100               |
| Total                   | <u>21,306,900 fr.</u> |

According to M. Peuchet (Dictionary of Commercial Geography) there was sent from France in 1787, for the following sums in works of silk—

|                                   |                |
|-----------------------------------|----------------|
| Stuffs, as taffeturs, satins, &c. | 14,884,100 fr. |
| Do. mixed with silk               | 649,600        |
| Silk gauze                        | 5,452,000      |
| Handkerchiefs                     | 118,000        |
| Ribbons                           | 1,231,900      |
| Galléons                          | 2,589,200      |
| Do. of thread and silk            | 445,300        |
| Total                             | 25,370,100 fr. |

We read in a memoir of M. Delabrousse, in the page of *“Du Cultivateur,”* that France produced each year 15 million pounds of silk, that it is obliged to draw as much more from abroad to feed its manufactures, and that there is in France but few persons who understand preparing for the organsin. If the silk in its first stages was well prepared in France, the organsin might be made from it, and the high price obtained, which the Piedmontese now receive, in ready money. We do not think this last observation is altogether correct: it is true that there is drawn from Piedmont a great deal of silk, for ready money, but it is rather to default of quantity than of quality, that those importations should be attributed; and we are the more impressed with this opinion, inasmuch as the raw silks of France have always passed for the finest in the world: there is no twist comparable to that of the Vivarais, of Dauphiny, and of Provence. The looms of Dauphiny, Provence, and Languedoc, hold it above that imported; so that France has nothing to desire, either as to the quality or facture of the silk. Before the revolution Lyons employed 18,000 hands in this branch. In 1788 there were in Lyons 2,700 work people in gauze and crape: the number at this time is reduced to 400. This estimate, as well as those that follow, are for the year 9. The number of ribbon weavers, formerly

2,700, is reduced to 300. Embroidery employed 6666 individuals, at present 600. The mulberry is but little cultivated in this department, though the prosperity of Lyons depends upon it: it was tried in 1760, the culture of the tree, and raising the worms also; some plantations succeeded at the time, though since generally abandoned.

§ 177. The *Kermes*, or scarlet grain, is from an insect that attaches and dies on the leaves of the evergreen oak (*chêne vert*). They are collected in France, in the departments comprehending Languedoc and Provence, particularly in the department Du Gard, where there is much of this holm oak. The kermes enters into the trade of Nimes, but it is in Poland that this insect abounds: formerly it was collected in abundance. The discovery of this cochineal has lowered the price of that substance. The Poles send considerable quantities to the other parts of Europe. The solidity and permanence of the colour cause us to regret its not being in more common use. The blood red of the ancient tapestries is from it. The scarlet *demigraine* is from a combination of it with madder. It enters into the composition of medicine, as in the preparation *alkermes*, where it is entirely useless: the *syrup of coral* contains it also.

§ 178. The *Nut-gall* is the product of the incision of an insect in the oak, but not all the species of this tree, nor in all countries: that which furnishes galls is called *robre*, or *rouvre*, and is found in Provence, Gascony, &c.

Our nut-galls are not as valuable as those of the Levant, not being so good for the dyer. The quantity collected in the Levant is so considerable, that Smyrna alone furnishes us yearly with a million pounds.

The *Spider*.—The virtuosi have sought to draw some account from the spider's web, and the attempt has been crowned with success. We have seen gloves and stockings of it, but commerce can never draw any thing from it.

§ 179. *Cantharides* abound on the ash tree. To gather them it is only necessary to shake them off. It is only in warm

situations that they are attended to: they are collected in large quantities, and immersed in vinegar, then dried, pressed, and put to sale. Their blistering power is well known.

## MINES.

§ 180. *Their Legislation.* Under the reign of Charlemagne, whose name recalls one of the most brilliant epochs of French prosperity, we perceive the earliest grants of mines to private persons. It appears that they were worked with various success till the 13th century, but they could not but decline, when by a rigorous course exerted against the coiners of false money, the progress of chemical experiments was arrested, and also, without doubt, from the lavish concessions of regal rights to the *seigneurs*, and of the right of working, thereby introducing a clashing, unfavorable to the business generally.

Charles VI. is the first who reclaimed, by an ordinance published at Paris the 30th May, 1415, as appertaining to the crown of France, the tenth part of all the worked metals, from the mines. He also desired that the proprietors of lands, where mines were found, should cede them to miners at a reasonable rate. He also exempted the miners from taxes.

Charles VII. gave to *Jacques Cocur*, in 1429, a general lease of the mint and mines: he confirmed in 1437 the ordinance on the mines, issued by his father.

Louis XI. by edict of 27th July, 1471, created an office of master-general visitor and governor of the mines of the kingdom, with lieutenants and clerks under him. This officer had the right to seek for mines, to have them opened in the royal lands, and even in a *seigneurale*, paying an indemnity. This prince brought into France, founders, refiners, and workmen, from abroad, and exempted them from contributions, for twenty years.

Henry IV. sought to remedy abuses, by an edict of June, 1601: he exempted from the dues of the tenths the mines of

sulphur, saltpetre, iron, ochre, petrole, pitcoal, flint, chalk, plaister, building, and mill stones; but he created anew the office of grand master, superintendant, and general reformer of the mines, with a lieutenant, comptroller, receiver, and register: and he confirmed the privileges granted to miners. This office of superintendant continued under the reigns of Louis the XIIIth, XIVth, and XVth, having always been the greatest obstacle to the success of the miner, it was at length suppressed in 1748. At that time the knowledge relative to the art of mining was extended by the translations of the best German works, on the subject, by discoveries in chymistry, and the lights afforded by those who had been sent abroad for that purpose.

The system adopted under Louis the XVth was followed and completed under the following reign; there was no longer a superintendant of mines, nor a company exclusively invested with the privilege of working them: the comptroller general of the finances was charged with their administration. By letters patent given at Versailles, the 11th of June 1778, it was ordained that there should be established in the mint house, Paris, a chair for mineralogy, and the art of refining, whence the professor gives lessons publicly and gratuitously. M. Sage was nominated for this chair, who was at that time member of the academy of sciences. This measure was followed by the arret of 16th March, 1783, establishing a theoretical school of mines, wherein is taught chymistry, geometry, (subterranean) foreign languages, and a practical school formed in the works of Poul-laouen, in Bretagne.

Shortly afterwards was established a collection of minerals and machines. The saloon of the minthouse which contained them is of course become, by the care of M. Sage, one of the most elegant and judicious embellishments of Paris. The school of mines quickly produced engineers and scholars, qualified to give effect to the labours of the inspectors-general. At this time, it was proposed to establish a resident inspec-

for, in each generality. Whilst the analysis of minerals was made at the laboratory of M. Sage, who developed their elements, and served to guide those who sought to extract them, the inspectors of the mines made annual visits to the works, and there inculcated their knowledge. Thus was the art of mining in France brought to a level with that of Germany and England. The same code was sanctioned by the National Assembly.

The law of 28th July, 1791, established an uniform system throughout France. The landlords relinquished their feudal rights, and the whole class of minerals was placed at the disposition of government, so far as to render its authority and superintendence accessory: the proprietor continuing to enjoy the privilege of taking minerals from the surface, or to go down 100 feet.

§181. The *Council of Mines* instituted by the national convention was composed of men, who uniting the science of the engineer, to that of the administrator, continues its researches on all the details relative thereto. The consular government established two schools of mines, one at *Geislantern*, department of the Sarre; the other at Pesay, department of Mont Blanc: a mineralogical chart of France is in train, and new specimens are supplied. An interesting journal has been publishing by this council since the year 3, on the scientific and economical parts of mineralogy.

There are counted on our territory 2000 forges, furnaces, founderies, tilt hammers, for iron, steel and castings. The importation before the revolution, amounted to 11 to 12 million livres in value.

We are assured that the ochre of berry was sent abroad and returned manufactured at an advance of six times the amount of the original price; and to another kind of oxidated iron we owe the red crayons of the designers, and the brown stone of the jewellers. The carburated iron, or plumbago, serves also for crayons, and crucibles.

§ 182. The *copper works*—are not in an equal state of activity, and copper is still imported.

§ 183. We possess many mines of *lead*, though few are worked. Sulphurated lead is sometimes employed in its natural state and is called (*vernis*) varnish. Lead is used in the arts, as in painting, china ware, soldering, smelting or refining metal, pharmacy and in war.

§ 184. By late conquests we have procured mines of *mercury* in the Palatinate and Duchy of Deux Points, sometimes mingled with silver. It is in distilling the mineral that a metal is obtained, which alone is fluid at the lowest ordinary temperature, and which is so useful in the separation of gold and silver in the mines, for silvering looking glasses, embroidering or gilding in gold grain, and in pharmacy. There are sixty establishments where mercury is prepared, in the mountains of Stahlberg, Roswald, Laudsberg, Baron Friedrich and Pottsberg. Their product is beyond our wants, whether in the metallic state, or in that of vermilion, cinnebar, sublimated corrosive and precipitate.

§ 185. *Zinc*—Oxidated or calamine, is found in the departments of L'Ourthe and La Roer, and serves for the facture of brass, by admixture with copper; and bronze, by mixture with copper and tin: the latter of which our territory does not at present supply.

§ 186. *Manganese*—is found in many places, and is useful in the glass works, and fabrication of crystals, and has become still more so, since the oxygenated muriatic acid has been employed in whitening linens. From marine salt distilled with oxyde of manganese the acid is obtained. The single mine of Romaneche can furnish enough for many ages, to supply both foreign and domestic demands.

§ 187. There has been *cobalt* found in many places: this metal which according to the degree of combustion it sustains is called smalt, azure, or safe, is of great value, it serves to heighten the whiteness of linen in bleaching, and to colour the



enamels of porcelain. That used at Seve comes from Sweden. It has been found at Canette, department of L'Aude, it is supposed in veins of arsenic; this must be determined by analysis.

§ 188. We have *Antimony*—enough for all Europe if the mines were sufficiently worked: they now serve nearly for our consumption; its use in medicine is known, and from its use in hardening the softer metals, it is demanded in the type founderies.

§ 189. We also meet with *Bismuth* in many of our lead mines; but it is not used by itself, it has the property of giving solidity to the tin, in plated work, and in glazing of queens-ware &c. and to serve in place of lead in assaying, soldering, and alloying.

Other metals not being abundant, nor prepared for commerce, we pass them. Mines of arsenic, nickel, molybdena, chrome, or red lead, scheelin (wolfram), titanica, and urania, have been found in France, alone or conjunct with others.

#### METALLIC SALTS, EARTHS, AND ALKALIES.

§ 190. Metals combined with acids give metallic salts. These salts are procured either by extract from the mineral, as the green copperas; or sulphate of iron; the sulphate of zinc, or white copperas; or by composition, as in the acetite of copper or verdegris; the acetite of lead or ceruse. The principal use of those salts is for colouring. There are some others, but of too little importance to be detailed.

§ 191. Alum, or sulphate of alumine. Epsom salt, or sulphate of magnesia. The alum has a triple base, sulphuric acid, potash or vegetable alkali, and alumine. The sulphur mines from whence alum is taken usually, contain iron, and afford, by cooling and evaporation, crystals of copperas, which are readily separated from crystals of alum.

The alkaline salts are chiefly the muriate of soda, or marine salt, the nitrate of potash, or saltpetre, and ammoniac salt.

## MINERAL ACIDS.

192. This class contains but three species of importance in trade—viz. oil of vitriol, or sulphuric acid, nitric acid, and oxygenated muriatic acid. The first so essential for dyers results from the combustion of sulphur with the nitrate of potash, in chambers hung with sheets of lead, which yields the acid in a gaseous form; mingling with the water placed on the floor of the chambers for the purpose. The nitric acid is used by painters and dyers, in medicine, &c. The oxygenated muriatic acid, is used in bleaching; this discovery is due to the French, though turned to profit by the English.

## COMBUSTIBLE MINERALS.

§ 193. *Pit Coal* holds, by the vast use of it, the first rank in the class of minerals. Abundantly spread in our territory, it offers the means of economizing our woods, and producing the fuel necessary for manufactures, and frequently placed near metallic mines, without which they could not be worked.

All the mines of coal are in beds in the secondary strata, generally immediately over those of primitive formation; they are usually accompanied by schist, more or less bituminous, and by grit, proceeding from the decomposition of the surrounding rocks. Sometimes the coals are found between strata of calcarious rock, of the secondary kind. That sort called *coal-gras* (fat) surcharged with bitumen, is used in those workshops where a strong fire is required. That called *dry*, where the sulphur predominates over the bitumen, is used where less heat is wanted. *Anthracite* has its bed only in the primitive formations, where it frequently exists in large bodies. A chemical analysis affords only carbon, mingled with some earths destitute of bitumen and sulphur, which are constituents of the coal. It burns slowly and dully. It is disposed by veins in a schist. It serves in the department of the Rhone for firing and burning lime. The *Jayet*, less imbued with bitumen than the coal, appears slightly decomposed; it is harder, and sup-

ports a polish, so that vases, buttons, &c. are made of it. The labour in this article, in the communes of St. Colombe, Peyrat, and Bastide, in 1786, employed 1200 workmen. To Spain alone there was sold for 180,000 livres of finished work, besides considerable exports to Germany, Italy and the Levant.

§ 194. *Bitumen* is another kind of combustible; the solid bitumen, or asphalt, so called from the lake wherein it floats, is found in many of the departments, particularly in the Lower Rhine and L'Ain; in these places it is found over a considerable surface, mixed with sand, of which it forms about the tenth part, from which it is separated by boiling. The mine of the Lower Rhine, at Bockelbroun, yields annually fifteen hundred quintals. That of L'Ain is of more modern origin, having been commenced in an. 4. This oil serves for greasing machinery, for making soap, mastic, and varnish.

The glutinous kind, in some parts, covers the ground and sticks to the feet: it is the liquid bitumen dried. The liquid bitumen, called also Naphtha, and Petroleum, is found in the lower Pyrenees.

§ 195. *Sulphur* is a mineral of the combustible kind. It is drawn from metallic substances, which it serves to mineralize, as sulphurated iron, and sulphate of copper. It is by roasting that sulphur is obtained in sublimation. Some indications of mines have appeared, but none have been opened.\*

The use of sulphur in the manufacture of gun powder, whitening silks, for modelling, &c. renders it an interesting article.

§ 196. *Turf* is not uncommon over France. When submitted to chemical analysis by carbonisation, it is found to contain, like wood in distillation, oil, hydrogen, pyroligneous acid, and ammoniac. Chaptal, minister of the interior, has given directions and encouragement for the consumption of this fuel.

\* **NOTE.** Such mines in Sicily are abundant: they are found alternate with masses of gypsum, or sulphate of lime, and in the same local circumstances as the mines of Gem Salt.

## PROCEEDS OF INDUSTRY.

### § 197. Proceeds of *French Industry*, in 1789:

|                            |   |   |                    |
|----------------------------|---|---|--------------------|
| For linen and hempen goods | . | . | 161,250,000        |
| Woollens                   | . | . | 92,500,000         |
| Silks                      | . | . | 41,600,000         |
| Articles of fashion        | . | . | 5,000,000          |
| Furniture and tapestries   | . | . | 800,000            |
| Mercery and hardware       | . | . | 75,000,000         |
| Tannery and peltry         | . | . | 6,000,000          |
| Papers                     | . | . | 7,200,000          |
| Goldsmith and jewellery    | . | . | 2,500,000          |
| Fire arms                  | . | . | 38,200,000         |
| Soap                       | . | . | 5,000,000          |
| Sugar refinery             | . | . | 5,800,000          |
| Salt                       | . | . | 2,700,000          |
| Tobacco                    | . | . | 1,200,000          |
| Arts and trades            | . | . | 60,000,000         |
| Total livres               |   |   | <u>504,750,000</u> |

### § 198. Woollen stuffs exported from France in 1784:

|                           |   |   |                       |
|---------------------------|---|---|-----------------------|
| In cloths                 | . | . | 15,530,900 fr.        |
| Other woollen stuff       | . | . | 7,491,300             |
| Woollen and linen mixture | . | . | 109,300               |
| Coarse wools, hair, &c.   | . | . | 3,655,700             |
| Hair and wool mixtures    | . | . | 639,600               |
| Bed spreads               | . | . | 129,800               |
| Total                     |   |   | <u>27,556,600 fr.</u> |

§ 199. In the year 1787 there was exported from France of silk goods:

**SALT.**

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|                                  |   |   |                       |
|----------------------------------|---|---|-----------------------|
| Stuffs, as taffetus, satins, &c. | . | . | 14,884,160 fr.        |
| Do. Silk mixtures                | . | . | 649,600               |
| Gauzes                           | . | . | 5,452,000             |
| Handkerchiefs                    | . | . | 118,000               |
| Ribbons                          | . | . | 1,231,900             |
| Galloons                         | . | . | 2,589,200             |
| Do. thread and silk              | . | . | 445,800               |
| Total                            |   |   | <u>25,370,100 fr.</u> |

There was brought into France before the revolution 12,700 bales of different sorts of silk, weighing marc weight,

|                              |                   |
|------------------------------|-------------------|
| 19,739 quintals, which cost  | 49,543,400 livres |
| Discounts for prompt payment | 560,807           |
|                              | <u>48,983,093</u> |

|                                |                          |
|--------------------------------|--------------------------|
| The domestic produce valued at | 22,758,500               |
| Total, foreign and domestic    | <u>71,741,593 livres</u> |

The consumption of Lyons is estimated at three fourths of the whole.

**SALT.**

§ 200. There are two sorts of salt in France; that made from the sea, and that from the salt springs. The latter is found in Lorraine, Franche Comte, the departments of La Meurthe, and Du Jura.

M. Necker has estimated the consumption of (old) France at 3,386,400 quintals; but this is not equal to the quantity made in France, much being sent abroad. The interior consumption has also increased since the revolution began: before that time there were drawn from the salines about 800,000 quintals, of which 500,000 went abroad. This last fabric has somewhat diminished since the revolution, the price resting nearly the same, 4 livres 10 sous tournois to 5 livres the quintal, at the salt works. It requires annually 35,000 cords of wood to sustain this manufacture, a circumstance that makes it desirable that the sea salt might be substituted in place of it, though the difficulty of transport renders this no easy matter.

The produce of the salt ponds amount to nearly four million quintals at this day. The manual labour costs about 15 sous the quintal. It is in esteem, and is sought by the Danes, Swedes, and Dutch. The quantity exported is supposed to produce in a year 2,400,000 livres tournois.

## DYING.

§ 201. This art is of great importance in manufactures; without it, stuffs present an uniform appearance, and afford not that elegant assemblage of tints, which now as it were multiply varieties. The Orientals have perfected this art, and we are far from equalling them; whether it be that their colours are more exquisite, that they understand better the art of preparing them, or that they are acquainted with some that are unknown to us.

Great efforts have been made in Europe to give dying that degree of beauty and duration which renders it of value. Colbert has made chemistry subserve this aim, as well as the other natural knowledge of his time. In the fifteenth century, the Gobelines had formed in the suburb St. Marceaux, on the banks of the Bievre at Paris, the manufacture of a beautiful scarlet, which has still retained the name of the Gobelines. It is perceived by the statutes issued in 1383, that at that time the art of dying formed a considerable branch of national industry.

However, at the period when Colbert published his regulations and instructions for dyers, in 1669, they found in Paris only three dyers of the wool of the finest class, and very soon after there were eight, ten, or more. They were distinguished into two classes, "the grand and the petit" teint; the former dying in colours the most durable and fine, the latter in the meaner and imperfect dyes. Conformable to the rule of 1669, the dyers in petit tint were prohibited from dying in grand teint, and *vice versa*. According to this regulation, the art of dying was exercised by three different professions—1. The dyers in grand teint—2. The dyers in petit teint—3. The dy-

ers in silk, wool, and thread. But those regulations have fallen long ago into oblivion.

In 1736, M. Dufai of the academy of sciences, was charged by the government, to enquire into the means of improving the art of dying, which had made but small progress since the former regulations had been made. He consigned to the memoirs of the academy of which he was a member (1737) the result of his labours. They have thrown new light on the art of mixing colours, and of multiplying those which resist the action of boiling and the air.

M. Hellot, another estimable chemist, was also employed in similar researches. His work was published in 1743, on researches respecting indigo, madder, the culture and mixture of the latter with cochineal; observations on the durability of those dyes that afford the scarlet, or kermes; the change of the latter into a violet, by the action of vitriol combined with salt of tartar. Roland has brought into activity, all that the places he has filled, in addition to his personal talents, could afford for the same purpose. The *programme* composed by him in 1775, for the prize proposed by the academy of Lyons, for the best memoir on the analysis of indigo, is positive proof of it. To M. Macquer we owe a treatise on the dying of silks. To M. M. Le Pileur D'Appligny, and De La Folie, excellent views, and good memoirs, on the same subject. In fine, the government caused to be translated and promulgated in 1791, "instructions for the dying of wools, by M. Peuchet," a German work; enriched by M. M. Berthollet and Demaret with additional information.

Nearly the whole of the ingredients which enter into our dying, are drawn from abroad, excepting the indigo derived from the colonies in time of peace. All the manufactories of any note, have the dying works attached for their peculiar service. The dying in wool, silk, and cotton, has made considerable progress in France towards perfection, though not in cheapness, except in reds, which are cheaper since those establishments

were formed for making the beautiful reds of the Levant, and Constantinople.

## INTERIOR COMMERCE.

§ 202. The principal productions of agriculture employed in commerce have been valued at 1 milliard 826 millions of livres tournois, of which 350 millions is in wines and brandies, and 60 millions in oils, of which a tenth is sent abroad; the rest is in grain of different kinds; in cattle 400 millions, in forage 60 millions, in wood and charcoal 146 millions, in wool 35 millions, in silk 25 millions, and in hemp and flax 50 millions. But these quantities are not alone absorbed in the interior consumption, since we draw from abroad large quantities of wool, flax, and leather.



§ 283. Table of exports for the year 1787.

| FRENCH ORIGIN.   |   |
|--|---|
| Produce of the soil of industry  | 93,782,000<br>133,443,000               |
| Produce of the soil of industry  | 690,000<br>520,000                      |
| Produce of the soil of industry  | 4,306,000<br>7,673,000                  |
| Produce of the soil of industry  | 22,891,000<br>41,381,000<br>804,756,000 |
| To Europe  | Asia                                    |
| FOREIGN ORIGIN.  |   |
| Colonial produce   | 152,206,000                             |
| Merchandise of Asia and Africa re-exported                             | 3,702,000                               |
| Do. of foreign agricultural origin imported from France                | 21,372,000                              |
| Do. of foreign industry  | 17,280,000                              |
| Do. of foreign agricultural origin exported from our American colonies | 2,663,000                               |
| Merchandise of foreign agricultural origin                             | 798,000                                 |
| Do. of foreign manufactures  | 15,421,000                              |
| Merchandise of foreign agricultural origin                             | 3,084,000                               |
| Do. of foreign manufactures  | 7,570,000                               |
| Merchandise of foreign agricultural origin                             | 5,977,000                               |
| Do. of foreign manufactured origin                                     | 7,774,000<br>237,858,000                |

Total 542,614,000 livres.

## STATEMENT OF EXPORTS.

## ARTICLES OF EXPORT.

§ 204. From the statements formed, it appears that in 1787, the principal articles of export, in produce of the soil, have been—

|                                     |                   |
|-------------------------------------|-------------------|
| In wines . . . .                    | 24,276,000 livres |
| Brandy . . . .                      | 14,455,000        |
| Vinegar . . . .                     | 130,000           |
| Made wines and liqueurs . . . .     | 244,000           |
| Fruits . . . .                      | 1,518,500         |
| Almonds . . . .                     | 850,000           |
| Olive oil . . . .                   | 1,732,000         |
| Corn and grain of all kinds . . . . | 9,700,000         |
| Beans, peas, lentels, &c. . . .     | 949,200           |
| Honey . . . .                       | 644,000           |
| Oxen, sheep and hogs, . . . .       | 5,074,000         |
| Mules, asses, horses . . . .        | 1,400,000         |
| Saffron . . . .                     | 214,000           |
| Salt . . . .                        | 2,822,000         |

*In manufactures.*

|  |            |
|--|------------|
| Wool, spun and unspun . . . .                    | 4,378,000  |
| Tanned hides . . . .                             | 1,280,000  |
| Skins, tanned sheep, deer, calf, &c. . . .       | 2,700,000  |
| Woollen cloths . . . .                           | 14,242,000 |
| Other woollen goods . . . .                      | 5,615,000  |
| Stuffs, of cotton, mixtures, cambrick, &c. . . . | 19,692,000 |

## STATEMENT OF EXPORTS FOR THE YEAR 1787.

*To Spain, and her colonies.*

|   |                  |
|---|------------------|
| Grain and pulse of all sorts, flour, codfish,<br>salted meats, brandy, wines, sheep, pigs,<br>cinnamon, pepper, sugars of all kinds . . . . | 12,564,000 livr. |
| Pitch and tar, mules, wool, cotton and silk . . . .   | 5,249,000        |
| Millinery and hardware, laces, stuffs,<br>handkerchiefs, gauzes, ribbons, dressed<br>hides and skins, stationary, furniture, . . . .        | 26,582,000       |
| Negroes . . . .   | 36,000           |

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LS. 44,431,000

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# STATEMENT OF EXPORTS.

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## *To Portugal and her colonies.*

|  |                     |
|--|---------------------|
| Grain and pulse of all sorts, hams . . .   | 1,612,000           |
| Cotton re-exported . . .   | 85,000              |
| Stuffs and hosiery of wool, laces, ribbons, paper, hides and skins dressed, mercery, mirrors, stationery . . . | 2,298,000           |
|  | <u>\$ 3,995,000</u> |

## *To Italy, Piedmont, Savoy, Switzerland, and Geneva.*

|   |                      |
|---|----------------------|
| Wheat, rye, cod fish, olive oil, wine and brandy, oxen, sheep, hogs, goats, coffee, sugars . . .  | 35,723,000           |
| Copper and lead, cotton and linen thread, iron work, dye woods, salt petre, grain, and oil of grain, verdigris, gum, minium, vitriol, indigo, rocou . . .   | 11,815,000           |
| Hosiery, cloths, stuffs, laces, gauzes, silk handkerchiefs and ribbons, linen and hempen cloths, hides and skins dressed, mercery, furniture, jewels, goldsmiths' work, mirrors, soap, stationery . . . | 30,805,000           |
|   | <u>\$ 78,343,000</u> |

## *To England, Scotland, Ireland, and colonies.*

|  |                      |
|--|----------------------|
| Grain and pulse, dried fruits, salt, wine and brandy, grain spirits, syrup, teas, &c. . .  | 19,028,000           |
| Cotton, indigo, Spanish wool, acacia, and seeds . . .  | 11,179,000           |
| Haberdashery, laces, gauzes, handkerchiefs, ribbons, linen and hempen cloths, mercery, trinkets, jewellery, mirrors, perfume-ry, gloves, &c. . . | 7,861,000            |
| Negroes . . .  | 394,000              |
|  | <u>\$ 37,962,000</u> |

## STATEMENT OF EXPORTS.

*To Holland, and colonies.*

|  |                      |
|--|----------------------|
| Coffee and sugar, wheat, rye, pulse, honey,<br>rice, dried prunes, wine and brandy   | 31,824,000           |
| Linseed, juniper berries, garden seeds, hops,<br>pitch, fuller's thistle, Spanish wool, to-<br>bacco in leaf, gum senegal, cochineal,<br>galls, ochre, pastel, alizarine, tounesol,<br>turpentine, verdigris | 7,126,000            |
| Gauzes, silk stuffs, plain and figured cam-<br>bricks, paper, soap, glass ware, looking<br>glasses, trinkets, gloves, jewellery,   | 6,943,000            |
| Negroes  | 129,000              |
|  | <u>\$ 46,022,000</u> |

*To Germany, Austrian Flanders, Poland, and Prussia.*

|   |                      |
|---|----------------------|
| Coffee, sugar, olive oil, cheese, dry fruits,<br>salt, brandy and wine, liquorice, oxen,<br>cows and sheep  | 43,575,000           |
| Pit coal, garden seeds, building stone, slate,<br>wool, cotton, silk, thread, lead ore, gun<br>flints,  | 12,893,000           |
| Stuffs of silk, embroidered, hosiery, gauzes,<br>laces, ribbons, woollens, cambricks, look-<br>ing-glasses, stationery, mercery, perfu-<br>mery, jewellery, gloves, &c. | 39,146,000           |
|   | <u>\$ 95,614,000</u> |

*To Sweden, Denmark, Russia, Hanse towns.*

|  |                      |
|--|----------------------|
| Coffee, sugar, olive oil, dried fruits, al-<br>monds, salt, brandy and wine, &c.   | 69,092,000           |
| Cotton, indigo, rocou, cork, gum, verdi-<br>gris, turpentine, India wood, leaf tobacco   | 7,139,000            |
| Hosiery, laces, stuff, gauzes, and silk hand-<br>kerchiefs, fine linen, cambrick, hats, jew-<br>ellery, stationery, trinkets, perfumery,<br>mirrors, &c. | 3,620,000            |
|  | <u>\$ 79,851,000</u> |

## IMPORTATIONS.

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### *To the American United States.*

|   |               |
|---|---------------|
| Coffee, sugar, rum, syrup, salt, olive oil,   |               |
| : fruits, brandy, wine, liqueurs,             | 10,675,000    |
| Cotton, drugs, &c.                            | 694,000       |
| Stuffs, laces, silk hosiery, linen, cambrick, |               |
| soap, gloves, gun-powder, glass-ware,         |               |
| hardware                                      | 1,238,000     |
|   | \$ 12,607,000 |

### *The empire of Turkey and Barbary powers.*

|   |               |
|---|---------------|
| Coffee, sugar, wine, syrups, liquors,     | 8,108,000     |
| Indigo, dyewood, cochineal, tartar, mini- |               |
| um, vermilion                             | 3,183,000     |
| Cloths, hosiery, embroidered stuffs, silk |               |
| handkerchiefs, and about 5 millions in    |               |
| gold and silver                           | 14,318,000    |
|   | \$ 25,609,000 |

|  |                 |
|--|-----------------|
| Total amount exported, French colonies |                 |
| exclusive                              | Ls. 424,434,000 |

## IMPORTATIONS.

§ 205. The importations into France, are, for the most part, of raw materials, if we except some English articles, and the iron and steel of Germany.

In 1787, we find, according to the statements, there was imported from Europe, and its distant possessions, comprehending the Levant, Barbary, and the United States, for the sum of

|   |                 |
|---|-----------------|
| Asia, including China                       | 379,915,000 fr. |
| America, comprehending our colonies         | 34,726,000      |
| Africa, including isles of France and Bour- |                 |
| bon, and slaves drawn thence                | 192,107,000     |
|   | 4,257,200       |

|   |                 |
|---|-----------------|
| Total of importations from the four quar- |                 |
| ters of the world, in a mean of the years |                 |
| 1785-6-7, value in our ports              | Ls. 611,005,200 |

In gold and silver coin and bullion,

Livres tournois 97,279,000

## PRINCIPAL ARTICLES OF IMPORT.

|  |            |
|--|------------|
| Leather of different kinds . . .       | 7,217,000  |
| Iron, Swedish and German . . .         | 8,469,000  |
| Brass . . . . .                        | 1,175,000  |
| Lead, of England and Hanse Towns . . . | 2,24 ,000  |
| Steel, German and English . . .        | 4,927,000  |
| Pit coal, English chiefly . . .        | 5,674,000  |
| Wood from the Baltic . . .             | 5,408,000  |
| Boards and planks . . . . .            | 1,593,000  |
| Tar and pitch . . . . .                | 1,557,000  |
| Ashes, soda and pot-ash . . .          | 5,762,000  |
| Yellow wax . . . . .                   | 2,260,000  |
| Corn . . . . .                         | 8,116,000  |
| Rice . . . . .                         | 2,000,000  |
| Fruits . . . . .                       | 3,060,000  |
| Butter of Ireland, Germany, &c. . .    | 3,507,000  |
| Salt pork and beef . . . . .           | 2,950,000  |
| Cheese . . . . .                       | 4,522,000  |
| Olive oil, . . . . .                   | 16,645,000 |
| Oxen, sheep, hogs, &c. . . . .         | 6,646,000  |
| Horses and mules . . . . .             | 2,911,000  |
| In green hides . . . . .               | 2,707,000  |
| do. skins . . . . .                    | 1,180,000  |
| Goat's hair from the Levant . . .      | 1,187,000  |
| Tallow . . . . .                       | 3,111,000  |
| Wool . . . . .                         | 20,884,000 |
| Woollens . . . . .                     | 4,325,000  |
| Raw silks . . . . .                    | 28,266,000 |
| Manufactured do. . . . .               | 4,154,000  |
| Flax . . . . .                         | 6,056,000  |
| Flaxen goods . . . . .                 | 11,955,000 |
| Hemp . . . . .                         | 5,040,000  |

# IMPORTATIONS.

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|  |            |
|--|------------|
| Hempen cloths . . .  | 6,544,000  |
| Cotton, Brazils, Levant and Naples .                             | 16,494,000 |
| Do. manufactured . . .   | 13,448,000 |
| Tobacco manufactured . . .                                       | 14,142,000 |
| Drugs for dying, pottery, spicery, glass<br>works, feathers, &c. | 61,820,000 |
| Exports from French colonies to France exclusive.                |            |

## STATEMENT OF IMPORTS FOR THE YEAR 1787.

### *From Spain and her colonies.*

|  |                   |
|--|-------------------|
| Anchovies, olive oil, cocoa, almonds, ci-<br>trons, oranges, raisins, brandy, wine and<br>liqueurs, Jesuits' bark, saffron, jalap and<br>liquorice . . . . . | 10,923,000        |
| Dyewoods, soda, iron, copper, wool, silk,<br>hides, skins and peltry undressed, indigo,<br>cochineal, allum, vermillion, cattle for<br>draft, &c. . . . .    | 20,007,000        |
| Silk handkerchiefs, jewellery, gold ware,<br>furniture and various accoutrements   | 2,385,000         |
| Blacks . . . . .   | 28,000            |
|  | <u>          </u> |
|  | £s. 33,343,000    |

### *From Portugal and her colonies.*

|   |                   |
|---|-------------------|
| Olive oil, cocoa, citrons, oranges, made<br>wines, cinnamon, pepper, cloves . . . . . | 2,756,000         |
| Cotton wool, ivory, goat skins, indigo, dye<br>and staining woods . . . . .           | 5,153,000         |
| India cloths, and Brazil manufactured to-<br>bacco . . . . .                          | 2,559,000         |
|   | <u>          </u> |
|   | £s. 10,468,000    |

### *From Italy, Savoy, Switzerland and Geneva.*

|  |            |
|--|------------|
| Wheat, rye, rice, pulse, flour, olive oil, ci-<br>tron juice, liqueurs, manna, opium, senna,<br>fresh fish . . . . . | 28,305,000 |
|--|------------|

## IMPORTATIONS.

|   |                       |
|---|-----------------------|
| Silk, wool, hemp, hairs and chameau wool,<br>skins and peltry undressed; plank, tal-<br>low, marble, charcoal, cinders, soda, sul-<br>phur, allum, gallnuts, shumac, tartar,<br>saffron, indigo, cochineal, laquered ware | 37,407,000            |
| Gauze, essences, perfumes, ribbons, hard-<br>ware, muslins, plain and printed   | 16,810,000            |
|   | <u>£s. 82,022,000</u> |

*From England and her possessions.*

|  |                       |
|--|-----------------------|
| Butter, flesh and fish salted, beer, Mocha<br>coffee, corn, flour, pulse, rice, pepper   | 8,948,000             |
| Pit coal, copper, iron, lead, tin, brass,<br>sheep's and cotton wool, fish oil, and<br>glue, hides and skins in hair, ivory,<br>whalebone, yellow wax, allum, copperas,<br>black lead, minium, horses, leaf tobac-<br>co, &c . . . . . | 16,466,000            |
| Cotton and woollen hosiery, woollen and<br>cotton stuffs, silk gauze, silk and cotton<br>handkerchiefs, India cottons and silks,<br>crockery ware, mercery, hardware, pel-<br>try, sadlery, glass ware . . . . .                       | 33,140,000            |
| Negroes . . . . .  | 4,500,000             |
|  | <u>£s. 63,054,000</u> |

*From Holland and her possessions.*

|  |            |
|--|------------|
| Corn, pulse, salt meats, codfish, salmon,<br>cheese, pepper, cloves, nutmegs, cinna-<br>mon, grain, spirits, beer . . . . .  | 12,801,000 |
| Timber and boards, dyewoods, ashes, pot-<br>ash, copper, ivory, steel, iron, tin, brass,<br>lead, tallow, whalebone, fish oil and glue,<br>yellow wax, oil from seeds, skins and pel-<br>try undressed, bristles, tobacco in leaf,<br>mineral blue, white lead, madder, mini-<br>um, vermilion . . . . . | 44,936,000 |



# IMPORTATIONS.

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|  |                      |
|--|----------------------|
| Pine hempen manufactures, cottons, printed<br>and plain, India muslins, paper hang-<br>ings, stationery, mercery, hardware | 5,348,000            |
| Negroes . . . . .  | 57,000               |
|  | <u>\$ 33,142,000</u> |

## *Germany, including Austria, Flanders, Poland and Prussia.*

|   |                      |
|---|----------------------|
| Fish of various kinds, grain, spirits, wheat,<br>oxen, cows, sheep, hogs, beer, &c.   | 13,742,000           |
| Timber, ashes, potash, pit coal, brass, pew-<br>ter, copper, lead, iron, hops, seeds, wool,<br>hemp, bristles, flax, thread, laces, fish<br>oil and glue, whalebone, peltry and skins<br>undressed, gum, allum, cobalt, cochineal,<br>copperas, indigo, black lead, madder,<br>mercury, horses, &c. | 19,038,000           |
| Linen and hempen cloths, India piece goods,<br>tapes of wool and thread, hosiery of cot-<br>ton, silk and wool, thread, lace, mercery,<br>hardware, glass ware, crystal   | 31,194,000           |
|   | <u>\$ 63,974,000</u> |

## *The North, including Sweden, Denmark, Russia, the Hanse Towns.*

|   |                      |
|---|----------------------|
| Wheat, fish, salt meats   | 1,863,000            |
| Wood of all sorts, potash, brass, copper,<br>lead, iron, steel, tallow, pitch and tar, lin-<br>seed, hemp, flax, wax, horsemanes, wool,<br>bristles, fish oil and glue, whalebone, fea-<br>thers and peltry, hides and skins, turpen-<br>tine . . . . . | 21,011,000           |
| Hempen cloths, India cottons, cutlery, hard-<br>ware, mercery, cordage . . . . .  | 5,698,000            |
| Negroes . . . . .   | 73,000               |
|   | <u>\$ 31,648,000</u> |

## BALANCE OF COMMERCE.

*The United States of America.*

|   |                      |
|---|----------------------|
| Grain, fish, bread stuffs   | 4,453,000            |
| Boards, timber, staves, live stock, fish oil,<br>peltry, pitch and tar, potash, linseed,<br>tobacco . . . . . | 19,283,000           |
| Manufactures introduced into the colonies   | 547,000              |
| Negroes   | 226,000              |
|   | <u>\$ 24,539,000</u> |

*The Ottoman empire and Barbary powers.*

|   |                       |
|---|-----------------------|
| Wheat, barley, pulse, olive oil, coffee   | 6,987,000             |
| Wool, silk, cotton, hides and skins in hair,<br>goat skins, yellow wax, copper, seeds,<br>ashes . . . . . | 29,162,000            |
| Levant stuffs . . . . .   | 1,576,000             |
|   | <u>\$ 37,725,000</u>  |
| Total amount imported . . . . .   | <u>\$ 379,915,000</u> |

## BALANCE OF COMMERCE.

§ 206. By balance of commerce is understood, a comparison established between the annual purchases, made abroad by the merchants of a country, and their sales in order to determine whether the gold and silver goes out or comes in, in the greatest quantity. Some persons regard as illusory the advantage termed a favorable balance in money, because, say they, if gold and silver, which are useful articles, are received, these are given in exchange for other useful articles, which are equivalent; so the compensation rests equal. It is very true, that with money, a nation, like an individual, can provide for all his wants in a way indefinable, sustain war, pay armies, foster science, and repair all the evils arising from a glut of territorial productions, not always possible, in any other way.

It may however be true also, that a nation like France, of

extensive surface, with produce suitable for every necessary, and many of the luxuries of life, a numerous population, patient and warlike, has but little interest in the question, whether the balance of its commerce be paid in money or goods; it operates equally for the country, if in receiving commodities beyond her own consumption, she exchanges abroad for what she wants at home, as it is perhaps with the United States. But such countries as England, Holland, and Genoa, which have a territorial extent disproportioned to their wants, to their political importance, which by reason or habit, prefer paying foreigners for making war, to the necessity of forced levies, require the most prompt means of circulation.

M. Necker, in his treatise on the administration of the finances, estimates the balance of commerce at 70 millions in favor of France, in the year 1784.

The importation of foreign commodities amount, in a mean year, according to his statement, to about 230 millions; the exportations to about 300 millions. In the 300 millions is comprehended—1st, The 70 to 76 millions of American colonial commodities, as sugar, coffee, indigo, &c.—2d, For teas, 18 millions, the stuffs and silks of China, the coffee of Bourbon and Mocho, the pepper of the Malabar coast, the fine muslins of Bengal, the produce of the Levant, and some other goods imported, which like the foregoing, were afterwards in whole or in part exported.

M. Arnonld has analysed with great sagacity and acuteness, the state of the balance of commerce for 1787. The results from his labours are, that the exportations to all parts of the world, amounted at that time to 542 millions 604 livres; that our importations amounted to 611 millions 3 thousand livres; balance against us 68 millions 599 thousand livres tournois: from whence it results that if we gained at that time a favorable balance from our European commerce, the

Levant, Barbary, and the United States of America, we yet lose on the whole.\*

In the commercial balance sheet of M. Chaptal, for the year VIII, the importations amount altogether to the value of 325 millions 116 thousand francs ; the exportations for the same period, being 271 millions 575 thousand francs, making a difference of 53 millions 540 thousand francs. It is necessary to analyze the causes of this difference.

As to importations it may be seen that the purchases of sugar and coffee, have been more considerable than in preceding years. In fact, we have only drawn from abroad, in the year VII, 16 millions weight of sugar, and nearly 6 millions weight of coffee ; when in the year VIII they amounted to 32 millions weight of sugars, and 15 millions weight of coffee, nearly. This is one of the causes of increase of importation, at the same time it is a consequence of the law of the 9th of Floreal, year VII, permitting the introduction of refined sugars, and diminishing the duties on coffee. In another view it may be remarked that the raw materials imported, as cotton, wool, hemp, flax, &c. have been sought for our manufactures, as appears by the facts, that the importation of those articles, which for the year VII, was about 96 millions, amounted in the year VIII, to upwards of 133 millions.

The second cause of the increase of our importations, may be attributed to the great activity of our manufactures, and which give hope of a corresponding export thereof.

\* NOTE. M. Necker does not comprehend in his estimate the merchandize arriving from St. Domingo, or the Windward Islands, under the name of importations, nor in his exportations does he take to account the merchandize exported thence from France, either directly or indirectly, by way of Africa for the purchase of slaves.

COLONIAL TRADE.

§ 207. In the year 1788, the importations from India and China into France, were—

|                                  |                       |
|----------------------------------|-----------------------|
| Silk and silk stuffs from China  | 3,000,000 fr.         |
| Tea and coffee of India . . .    | 5,000,000             |
| Cotton goods from Coromandel . . | 6,000,000             |
| Muslins of Bengal . . .          | 4,500,000             |
| Pepper of Malabar . . .          | 1,500,000             |
|                                  | <u>20,000,000 fr.</u> |

In the same year the exportations in merchandise generally of India and China, were 17,100,000

|                                   |                   |
|-----------------------------------|-------------------|
| Coffee of Bourbon and Mocho . . . | 900,000           |
|                                   | <u>18,900,000</u> |

§ 208. The sales of the India Company at L'Orient, in November, 1788, were—

|                                  |             |
|----------------------------------|-------------|
| Saltpetre . . . . .              | lbs. 65,600 |
| Bohea tea . . . . .              | 330,950     |
| Camphou . . . . .                | 342,909     |
| Do. Company . . . . .            | 221,504     |
| Souchong . . . . .               | 54,879      |
| Pekoe . . . . .                  | 128         |
| Sutchu . . . . .                 | 148         |
| Green tea, superior . . . . .    | 239,901     |
| Tonkay green . . . . .           | 123,096     |
| Hyson skin . . . . .             | 27,037      |
| Hyson . . . . .                  | 141,861     |
| Cinnamon . . . . .               | 30,000      |
| Flowers of cinnamon . . . . .    | 10,503      |
| Rhubarb . . . . .                | 36,342      |
| Cotton thread of China . . . . . | 130         |
| Bundles of cane . . . . .        | 7,500       |
| Mother of pearl . . . . .        | lumps 750   |

|   |      |         |
|---|------|---------|
| Cowries   | lbs. | 255,000 |
| Pepper  |      | 173,000 |
| Laquerbooks, in sheets                              |      | 19,220  |
| Redwood   |      | 323,127 |
| Unbleached silk of Nanking                          |      | 40,900  |
| Pieces of porcelain                                 |      | 120,564 |
| Piece goods, as Madras hkhfs. stripes, &c.          | pa.  | 53,563  |
| Muslins   |      | 789,459 |
| Yellow Nankeens                                     |      | 178,830 |
| Cassas, moodys, gurrals, baftas, and stuff of Patna |      | 82,095  |

Besides a variety of other articles. A part of those goods pass to England and the north, particularly the teas. This company was afterwards suppressed, and the trade laid open, on paying an induction fee, for the support of stores, counting-houses, &c.

## NAVIGATION.

§ 209. It is from the ministry of Colbert that we are to date the prosperity of our mercantile marine, though some judicious regulations had preceded that period. In the year 1602 it was ordained by Henry 4th, that foreign vessels should pay in our ports the same charges for anchorage as were reciprocally paid by French vessels in foreign ports respectively. The politic plans of this prince died with him; and in 1626 the notables petitioned government to grant a sufficient protection to trade by *guarda costas*, &c. against the depredations of pirates, on the coast. On the demand of the parliament of Provence, the government was obliged in the mean time to purchase seven vessels in Holland, for the protection of the Levant trade in the Mediterranean, at that time of importance, as appears by a treaty made in the preceding reign between the Ottoman Porte and France. By this treaty the Grand Signior exempted French vessels from the right of search at sea, and declared that the French flag should cover the merchandize under it.

Cardinal Richelieu had at heart the re-establishment of the marine ; he formed commercial societies, and created a marine council. He prepared the way for Colbert. He laid a tax of 50 sous tournois, on each ton of foreign shipping, entering the ports of France. To Colbert we owe the ordonnance for the mercantile marine of 1661, which has served as a model for other nations.

In 1669, France employed but 600 vessels in foreign trade. At the close of the reign of Louis the 14th, we may have had 100 vessels employed solely in the West-India trade. In supposing (with M. Arnould) that half a century after the time that Colbert estimated the marine at 600 French vessels, in foreign trade, that it had augmented a sixth only, because of the long and ruinous wars which had taken place, we might estimate without dread of exaggeration or miscalculation at 800 vessels, of 100 to 250 tons, the total amount of those employed in our commercial navigation at the commencement of the present century. Since that time it has gradually increased, and received great encouragement. Still, however, the Baltic trade, some part of the coasting trade, and that of the Levant, was carried on in foreign vessels. The trade of France within the Sound employed 705 vessels, though but 100 of them was of France. In 1788, there were of the ports of France for the uses of commerce, about 1000 vessels of 250 tons each, on an average, employed on long voyages, to the East or West-Indies, or in the cod or whale fisheries.

The maritime commerce, engaged in exportations, to all the countries of Europe, employed in 1788, 580,000 tons of all nations ; and of this number but 152,000 were French. By a statement made in 1798, under the view of the minister Roland, it appears that, in 1792, the entries into the ports of France were 1,823 French vessels, making 147,821 tons.

During the same year, there were entered at the same ports 1940 English vessels, making a tonnage of 145,012 tons ; and

of all other nations 3,844 vessels, making a tonnage of 346,402 tons : making altogether, for the import into France, 7,607 vessels, and a tonnage of 639,235 tons.

The vessels under the French flag that cleared out during the same year, amounted to 1,940, giving a tonnage of 147,410 tons ; under the English flag 3,111 vessels of 90,662 tons ; under all other flags 3,567 vessels, making a tonnage of 306,868 tons. Giving altogether for the export 8,618 vessels, equal to 544,935 tons. It is known that a ton (marine) is equivalent to 2000 lbs.

The value of the cargoes *imported* by these vessels, amounts to 319 millions 265 thousand francs, in different commodities, viz.

|  |          |            |     |
|--|----------|------------|-----|
| In corn of all kinds and pulse           | quintals | 2,305,680  |     |
| Hemp . . . . .                           | do.      | 144,019    |     |
| Fossil coal . . . . .                    | do.      | 4,396,531  |     |
| Cotton . . . . .                         | do.      | 90,866     |     |
| Hides (59,193) . . . . .                 | do.      | 11,962     |     |
| Brandy . . . . .                         | muids    | 21,897     |     |
| Geneva . . . . .                         | do.      | 12,301     |     |
| Stuffs and woollens of all kinds to the  |          |            |     |
| value of . . . . .                       |          | 13,759,166 | fr. |
| Bread stuffs . . . . .                   | quintals | 166,960    |     |
| Iron . . . . .                           | do.      | 426,388    |     |
| Oil . . . . .                            | do.      | 383,787    |     |
| Wool . . . . .                           | do.      | 145,654    |     |
| Lead . . . . .                           | do.      | 80,995     |     |
| Ironmongery and mercery . . . . .        |          | 6,032,000  | fr. |
| Silk . . . . .                           |          | 10,430     | do. |
| In linen cloths of all kinds, comprising |          |            |     |
| handkerchiefs of cotton and thread to    |          |            |     |
| the amount of                            |          | 26,511,666 | do. |

The value of the cargoes *exported* from France amount to 357,628,000 francs, viz.



# THE BANK OF FRANCE.

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|   |                |
|---|----------------|
| Brandy . . . . .  | 94,710 ms.     |
| Geneva . . . . .  | 15,722 do.     |
| Silk stuffs, gauze, handkerchiefs, milline-<br>ry, ribbons, &c. . . . . | 30,147,466 fr. |
| Stuffs and hosiery of wool, cotton and<br>thread . . . . .              | 10,204,766 do. |
| Drapery of different kinds . . . . .                                    | 15,244,300 do. |
| Linen goods comprizing handkerchiefs of<br>cotton and thread . . . . .  | 21,216,033 do. |
| Wines of all kinds . . . . .  | 876,025 ms.    |

The cargoes of vessels loaded with colonial productions, and brought into French ports, consisted of—

|                              |             |
|------------------------------|-------------|
| Coffee . . . . .             | 708,490 qs. |
| Cotton . . . . .             | 35,470 do.  |
| Indigo . . . . .             | 6,640 do.   |
| Syrup and molasses . . . . . | 106,930 do. |
| Raw sugar . . . . .          | 414,200 do. |
| Refined sugar . . . . .      | 23,610 do.  |
| Clayed sugars . . . . .      | 792,280 do. |

# THE BANK OF FRANCE.

## §210. ARTICLES OF ASSOCIATION.

Art. I. There shall be established a public bank, under the denomination of "THE BANK OF FRANCE." The funds thereof shall consist of shares.

II. The operations of the bank shall commence 1st of Ventose, year VIII.

The establishment cannot be dissolved but by the will of the shareholders, to the amount of three fourths of the capital.

III. The institution of which the duration is indeterminate, shall compose a *moral body*, responsible only for the engage-

ments of the bank. Each shareholder individually is merely a lender of money.

IV. The capital stock of the bank of France shall be thirty millions of francs, in specie ; it shall be divided into thirty thousand shares of a thousand francs each.

Foreigners may hold shares.

The capital stock may be increased hereafter, but by the creation of new shares only.

All demands of payment from shareholders is inhibited.

V. The operations of the bank of France will consist in—

1. Discounting bills of exchange, and notes with three signatures of French citizens, or foreign merchants of undoubted solvency.

2. To take charge of the recovery of debts, for individuals or public bodies, and to make advances thereon, in cases of certainty in the security.

3. To receive on account current, all deposits and consignments, whether in specific sums or in effects of individuals, or companies, to pay for them the *mandates* that they may draw upon the bank, or the engagements that they may have made payable at their houses, up to the full amount to their credit in bank.

4. To emit notes payable to bearer at sight, and notes to order, payable a certain number of days after sight.

These notes shall be emitted in such proportions as may rate with the sums in the possession of the bank, and the payments to be made ; it shall not at any time be exposed to defer payments of its engagements from the moments they shall be presented.

5. To open a depot for all sums above 50-francs, to be reimbursed at convenient times.

The bank is to pay interest on those sums, and to furnish certificates payable to bearer, or to order.

The bank is interdicted from every kind of trade, except in gold and silver.

**VI. The bank refuses to discount—**

1. The paper derived from operations which may appear contrary to the safety of the nation.

2. The paper arising from illicit trade.

3. The paper created by collusion between the signers, without real value in account.

**VII.** The whole number of shareholders of the Bank of France are represented by two hundred of themselves.

**VIII.** The two hundred shareholders called to constitute the general assembly, should be French citizens.

A French citizen, bearing a procuration of a French or foreign shareholder, may represent him in the general assembly.

The two hundred shareholders composing the general assembly, are those who, after the opening of the books of the bank, three months having elapsed, shall hold the greatest number of shares.

In case of equality in the number of shares, the preference is given to the oldest shareholder, following the order of subscriptions.

**IX.** To have a deliberative voice, a person must represent at least five shares.

Each shareholder has a vote for every five shares, when uniting the number of four votes or more.

**X.** The Bank of France is administered by fifteen agents, and supervised by three censors chosen, by the general assembly, from the mass of the French citizens.

The regents and the censors ought, in entering on their functions, shew that each of them is proprietor of at least thirty shares of the bank, or that they unitedly represent 540 shares.

**XI.** The regents are renewable yearly by fifths, and the censors by a third; they shall be re-eligible to the same functions.

The rotation shall take place by lot, in the first instance, afterwards in the order of seniority.

**XII.** For the first and only time, seven of the regents are named by this present statute.

The eight other regents, and the three censors, shall be named by scrutiny of the absolute majority, in an assembly of shareholders which shall have been the first subscribers to this statute.

This assembly shall be convoked by the seven regents already named ; it shall not take place until there be at least fifty subscribers.

**XIII.** If it happens that two months before the period of a general assembly, either by resignation or decease, the number of regents are reduced below twelve, and the censors to one only, the complement shall be chosen in a general assembly, holden extraordinarily for that purpose.

The new appointments shall be made in the order of resignations or deaths, and each of the elect shall enjoy only the time remaining to his predecessor.

**XIV.** The general assembly of the bank meet annually the 25th of Vendemiaire of each year. It audits at that time, the resumed account of the operations of the preceding year, and proceeds by means of scrutiny to the appointment of the fifth of the regencies then vacated, the third of the censors, and of those vacancies occasioned by resignation or death.

The general assembly of the bank may be extraordinarily convoked by the regency, when it has changes to propose, or modifications, or ameliorations to the fundamental statutes of the bank.

This convocation shall take place after being deliberated by the regency, on a proposition formally submitted by the censors.

**XV.** The fifteen regents shall divide themselves into several committees, to administer the different branches of the affairs of the bank.

The council general elects a control committee, composed of three of its members. This committee is specially and pri-

vately charged with the direction of the general operations of the bank, under accountability to the council general.

The president of the central committee presides of right in the council general, as well as in the general assembly. His functions continue a year, and he is re-eligible.

**XVI.** The censors are charged with the superintendence of the execution of the statutes and regulations of the bank.

They give no assistance, nor deliberative voice, in any of the committees, but they assist of right at that of the council general.

They submit their observations to the council general, and may require the convocation of the general assembly of shareholders, for specific reasons assigned; the council general deliberates on them.

The censors may take account of the state of the funds, registers, and archives of the bank.

They are charged with the verification of the annual accounts to be rendered by the regency to the general assembly.

They are to make, at each general assembly, a report of their operations.

**XVII.** The bank shares are represented by an inscription, by name in a register kept for that purpose, by duplicates.

Each shareholder is of right a member of the establishment, by the sole fact of paying up the price of his share.

The transfer of shares is made by declaration of the proprietor, presented by one of the accredited agents of the bank.

Those agents are guarantees of the validity of declarations; they of course are held in sureties at the bank by the property of shares to be fixed.

**XVIII.** The dividends on shares shall be regulated every six months, by the council general of the bank.

After being fixed the dividend is payable at sight.

It is payable at Paris by the bank.

It is payable in the chief place of each department, by the correspondents of the bank to be made known.

In the year VIII, there shall be a dividend at the end of the year only.

XIX. The functions of regents and censors are gratuitous, excepting the attendance money (*droits de presence*).

XX. The council general of the bank determines and nominates its officers. It regulates their service.

It regulates generally and provisionally the expences of administration, and the *droits de presence* of the regents and censors.

The statement of the expences is to be submitted for the approbation of the general assembly.

XXI. The council general is charged with the organization of the administration of the bank, and all regulations necessary thereto.

Those regulations are to be considered as provisional, until approved by the general assembly.

XXII. The shareholders and regents are not liable for the engagements of the bank, except only to the amount of their shares respectively.

XXIII. The acts judicial or extra-judicial, concerning this establishment, whether active or passive, shall be made and done in the name of the bank generally, proceeding from and actuated by the regents.

XXIV. The shareholders shall pay into the bank the amount of their subscription, as follows :

One fourth in Ventose, year VIII ;

One fourth in Floreal ;

One fourth in Messidor ; and

One fourth in Fructidor.

In default of payment of the whole, or part of the subscription, the shares are held under forfeit : no dividend can be paid thereon to the holders. The amount, to his credit in account, shall be restored.

XXV. This statute shall serve as an act of union between the shareholders, and forms a law between the establishment

and the public ; it shall be registered in the tribunal of commerce at Paris, at the end of the next Pluviose.

Having mentioned the distinct character of the Bank of France, and having made known its fundamental rules, it remains to give some account of its operations.

We shall take for an era the 1st Ventose, year VIII, the day it commenced operations, until the 24th Vendemaire, year IX. It will then be easy, by the expositions taken from the account rendered the 25th of Vendemaire, year IX, by the regents of the bank, and general assembly of shareholders, to form a correct idea of the advantages enjoyed by the establishment.

To judge by the infant state of the Bank of France, of what may be hoped from the successive growth of its funds, the principal sources of its business and affairs, at the respective periods of the 1st Ventose, year VIII, and that of 24th Vendemaire, year IX, including therein a term of 7 months 24 days—the *accounts current*, amounting the 1st Ventose to only 2,200,000 francs, the 24th Vendemaire had increased to 5 a 6 millions. The sum returned by the accountant of accounts current, being 5 millions 500 thousand francs, it has since amounted to 11 millions ; and in certain circumstances, the wants of the place have reduced it to 7 millions.

The balance sheet of the sums obtained by discount, was 6 millions on the 1st of Ventose, and it has amounted since, and to the 24th Vendemaire, to 15,901,436 francs 27 centimes ; independently of 2,509,241 francs 74 centimes, in sums employed by the correspondents of the bank, and of 3,328,000 francs in assets among the departments. The sum discounted, this real sign of the prosperity of a bank, and of its utility, has arose in some decades to 7 millions ; the total is 111 millions 820 thousand and 226 francs 41 centimes. This sum has produced a profit of 1,253,841 francs 25 centimes.

The lottery tickets, the business of which is pretty extensive, has given rise to a correspondence with the departments,

the commission granted to the bank hath afforded a product of 47,543 francs 77 centimes.

The notes of the accountant for accounts current, continue to be of service to the bank, after having been struck with a stamp, indicating their payment at bank. The bank has already had made a note of 1,000 francs ; it is furnished for an emission of 6 millions. A note of 500 francs is in preparation, and when the bank has made a sufficient quantity of its own notes, those of the accountant of accounts current shall be withdrawn, or annulled.

The charges or general expences of the bank, as the making of notes, carriage of specie, and all others whatsoever, amount to 218,718 francs 14 centimes.

Before presenting the final accounts of the operations of the bank, during 7 months 24 days, before exposing the motives which directed the regency in fixing the dividend, it is necessary to retrace some results of an arrangement made in Nivose, year VIII, with the shareholders of the "*caisse des comptes courant*."

It has paid to the stockholdeers of that *caisse*, as well to those who have united with the bank, as to those who have had an entire reimbursement

|                                      |                  |
|--------------------------------------|------------------|
| Capital, ceded to the bank . . . . . | Fr. 1,506,990 13 |
| Profits arising . . . . .            | 1,215,119 43     |
|                                      | 89,225 96        |

The difference of 202,644 francs 74 centimes, is the price of the cession of that establishment already organized, and by which the bank had found the means to place itself in activity, the day after the cession. This real advantage is a value eventually added to the capital, and it might be, in rigor, considered as augmenting the stock, but the regents have thought it prudent to restore this defalcation of capital, of 202,644 francs 74 centimes, by deductions from the profits, the whole extinguishable in five years, by annual instalments.



*STATEMENT of the operations of the Bank of France, from the 1st Ventose, year VIII, to the 24th Vendemiaire, year IX, extracted from the amount of profit and loss.*

*Receipts.*

|  |                     |
|--|---------------------|
| Gain by discounts . . . . .  | Fr. 1,253,841 25    |
| Premium on remittances . . . . .                                       | 22,753 58           |
| Commission or indemnities on the receipts<br>for the lottery . . . . . | 47,543 77           |
| Charges on deposits . . . . .  | 2,542 69            |
| Total  | <u>1,326,681 29</u> |

*Expenditures.*

|   |                   |
|---|-------------------|
| Commission to agents and loss on copper<br>money . . . . .  | Fr. 72,518 24     |
| Dividends unpaid, on shares under forfeit,<br>accruable on the 1st Semestre, year IX  | 244,195 50        |
| Charges and general expences . . . . .  | 218,718 14        |
| Balances of interest payable by the bank  | 2,236 30          |
| Annual application for reinstating the sum<br>of 202,644 francs 74 centimes, allowed to<br>the stockholders of the "caisse" | 40,000            |
| Total   | <u>577,668 18</u> |

|                        |                   |
|------------------------|-------------------|
| Receipts . . . . .     | 1,326,681 29      |
| Expenditures . . . . . | <u>577,668 18</u> |

Gain 749,013 11

*Deductions.*

1. Gratnities to persons employed in the bank, charities, &c. . . . . 26,482 91
2. Pensions allowed to old officers of the late "caisse" . . . . . 1,480 20

|          |                |
|----------|----------------|
|          | 27,963 11      |
| Gain net | <u>721,050</u> |

In fixing the dividends, the regency perceived that the true interests of the shareholders was not so much to be promoted by paying all the profits acquired, as by a partition of funds in actual possession, reserving prudently something for contingencies. The shareholders, in placing their capitals in the Bank of France, seek not a large gain, such as accrues from hazardous trade : they forego immoderate profit for ample security. They must also reckon with certainty on an annual regular product, and as this product may be endangered by events, though rare, yet possible, it is necessary to insure it by economy, that is to say, by funds reserved in times of prosperity. Guided by these principles of order and prudence, the regents of the bank, jointly with the censors, have decreed, that the dividend shall be 5 per cent, and that 4 and a half per cent shall be placed in reserve. Thus paying 50 francs per share on 7,590 shares, at that time taken up at the bank

|                                 |     |                |
|---------------------------------|-----|----------------|
|                                 | Fr. | 379,500        |
| In reserve, 45 francs per share | .   | 341,550        |
| Total gain for the year VIII    | .   | <u>721,050</u> |

The future stockholders entering into the association with rights rigorously equal to those of the actual shareholders, shall also have to pay 1,000 francs a share, with 45 francs additional for their interest in the reserve fund. The regency has also decreed, that the shares which may be taken in the next Semestre, must be paid for—

One third prompt, more 45 francs for the reserve fund.

One third at the end of Frimaire, year IX.

One third at the end of the Pluaise following.

A discount of one half per cent per month allowed for sums paid in anticipation.

## MEASURES, WEIGHTS, AND MONIES.

§ 211. The system of measures, weights, and money, being of habitual use, and a growing study, we have thought it would not be useless to give, in a work treating of political economy, an actual exposition, and the relation that exists between them and the old denominations proportionately.

The great difficulty of the new system, consists chiefly in the names given to weights and measures. These names, however, are few, and are comprised in four primitives; the *metre*, *Pare*, *le litre*, and *le gramme*. These four principal unities, have three divisions, and four multiples, which apply to each of them. The three divisions are the *deci*, *centi*, and *mille*. The *deci* signifies the tenth of an integer, *centi* the hundredth, and the *mille* a thousandth. The four multiples are—the *le deca*, *hecto*, *kilo*, and *myria*. *Le deca* signifies ten integers, *l'hecto* signifies a hundred, *le kilo* a thousand, and *le myria* ten thousand. Thus it appears that four terms designate all the new weights and measures: they may be joined at pleasure to the four multiples, or three divisors; and when once these eleven terms have been committed to memory, the whole system of the new weights and measures are known.

### MEASURES, LINEAL AND TRAVERSANT.

§ 212. Le metre is the  $\frac{10}{1000000}$  part of a quarter of the terrestrial meridian, or, of the distance from the equator to the pole. It is the primitive measure, the elementary sign of all measures. It serves to determine measures of distance, as the toise heretofore. It takes the place of the *aune* and the *demi-toise*. It is equal to 3 feet 0 inches 11 lines  $\frac{4}{5}$  centimes.

**Decametre**—The decametre is equal to ten metres: it replaces the surveyor's chain and perch: it is equal to 30 feet 9 inches, 6 lines and  $\frac{11952}{100000}$

*Hectometre*—Equal to 100 metres, and to 307 feet 11 inches, 4 lines and  $\frac{1952}{10000}$

*Kilometre*—Equal to 1000 metres, about one quarter of a post league, equivalent to 535 toises and 1-3.

*Myriametre*—Is equal to 10,000 metres; it represents two ordinary leagues, and is equal to 5,353 1-3 toises.

*Decimetre*—The decimetre is the tenth part of a metre; it is equal to 3 inches 8 lines and  $\frac{344}{10000}$

*Centimetre*—The centimetre is the hundredth part of the metre; is equal to 4 lines  $\frac{4344}{10000}$

*Millimetre*—Is the 1000th part of a metre.

#### AGRARIAN AND SUPERFICIAL MEASURE.\*

§ 213. *L'Are* is the measure of superficies which serves to determine the extent of estates, as the arpent heretofore. It is equal to 100 square metres, or a square decametre, and is equivalent to 948 feet 31 centimes square, or about 26 square toises.

*Hectare*—Is equal to 100 ares; it contains 94,391 square feet, and is nearly the double of the great arpent of 100 perches square of 22 feet. The exact proportion is 49 to 25, or 2,634 square toises 19 centimes.

*Myriare*—Is equal to 10,000 ares; it is equivalent to a square kilometre, to 9,483,100 feet square, or 263,419 square toises.

*Deciare*—The deciare is the 10th part of the are; it is equal to 10 square metres. Is equal to 94 feet square and 831 thousandths, or about 2 square toises.

\* The grand French arpent is of 100 perches: the perch is of 22 feet, or 3 2-3d toises. The side thereof being 36 toises 666 parts of a toise; and the square content 1343 toises 95 parts.

The common arpent is of 100 perches also, but with this difference, that the perch is only 18 feet. In both cases the French toise contains 6 French feet: each foot being equal to 12 8-10ths inches of English measure.

*Centiare*—Is the hundredth part of an are; is equal to a square metre, and to 9 feet  $\frac{4831}{10000}$

## SOLID MEASURES.

§ 214. *Le Stere*—Is equal to a cubic metre; it answers to 29 feet cubic  $\frac{2027}{10000}$ . It is equivalent, nearly, to a quarter of a chord and 1-2 *voie* of wood.

*Decistere*—Is the tenth part of the *stere*; it is equal to cubic feet 2 and  $\frac{92027}{100000}$ . It replaces the *solive* of the carpenter of 3 cubic feet.

## MEASURES OF CAPACITY.

§ 215. *Le Litre* is the measure of capacity. It is equal to the cubic decimetre. It replaces the Paris pint, which it exceeds by a twentieth, nearly cubic  $50\frac{46}{100}$  inches.

*Decalitre*—Is equal to 10 litres. It replaces the Paris bushel, and the demi decalitre replaces the *picotin*. It is equivalent to cubic  $50\frac{1}{2}$  and 6 tenths inches, or 10 and a half pints.

*Hectolitre*—Is equal to 100 litres, is equivalent to  $5\frac{46}{100}$  cubic inches, or 105 pints.

*Kilolitre*—Is equal to 1,000 litres, and to a metre cubic. It replaces the marine ton, and is equal to cubic 50,460 inches, or 1,050 pints.

*Decilitre*—Is the 10th part of the litre, nearly equal to an ordinary goblet, and equal to cubic  $5\frac{46}{1000}$  inches.

*Centilitre*—Is the 100th part of the litre, equal to a small dram glass, equal in cubic measure to  $\frac{5046}{10000}$  of an inch.

## WEIGHTS.

§ 216. The gramme is the unit of weights. It is equal to the weight of a cubic centimetre of distilled water. It weighs 18 grains 841 thousandths.

*Decagramme*—Is equal to 10 grammes, and to 2 gros 44 grains 41 centiemes.

**Hectogramme**—Is 100 grammes, and equal to 3 oz. 2 gros 12 grains and 1 tenth.

**Kilogramme**—Is 1000 grammes ; it is the weight of a cubic decimetre of distilled water, equal to 2 lbs. 5 gros 49 grains.

**Myriagramme**—Is equal to 10,000 grammes, and to 20 lbs. 7 oz. 58 grains.

**Decigramme**—Is the 10th part of a gramme, equal to  $1 \frac{8841}{10000}$  grains.

**Centigramme**—The 100th part of the gramme  $\frac{18841}{100000}$  of a grain.

**Milligramme**—The 1000th part of a gramme, equal to  $\frac{188410}{1000000}$  of a grain, or 53 d.

By a consular decree of 13th Brumaire, year IX, the decimal system of weights and measures is definitively put in execution throughout the republic, from the 1st Vendemaire, year X. But to facilitate its execution, the decree permits that the denominations given to measures and weights, whether in public acts, or constant usage, may be called as in the table following—

#### TRAVELLING MEASURES.

| Names, technical. | Names, in common use. | Amount, in new measure. |
|-------------------|-----------------------|-------------------------|
| Myriametre        | Lieu (league)         | 10,000 metres           |
| Kilometre         | Mill (mile)           | 1,000 metres            |

#### MEASURES OF LENGTH.

|            |  |                              |
|------------|--|------------------------------|
| Decametre  | Perche                                   | 10 metres                    |
| Metre      | Fundamental unit of weights and measures |                              |
| Decimetre  | Palm                                     | 10th of a metre              |
| Centimetre | Doight (finger)                          | $\frac{1}{20}$ th of a metre |
| Millimetre | Trait                                    | 1,000th of a metre           |

#### AGRARIAN MEASURES.

|          |            |                   |
|----------|------------|-------------------|
| Hectare  | Arpent     | 10,000 sq. metres |
| Are      | Sq. Perche | 100 sq. metres    |
| Centiare | Sq. Metre  |                   |

MEASURES OF CAPACITY.

FOR LIQUORS.

| Names, technical. | Names, in common use. | Amount, in new measure. |
|-------------------|-----------------------|-------------------------|
| Kilolitre         | Muid                  | 1 cubic metre           |
| Decalitre         | Velte                 | 10 cubic decimetres     |
| Litre             | Pinte                 | 1 cubic decimetre       |
| Decilitre         | Glass (verre)         | 1 tenth of decimetre    |

FOR DRY MEASURE.

|            |                   |                      |
|------------|-------------------|----------------------|
| Hectolitre | Setier            | 100 decimetres cubic |
| Decalitre  | Boisseau (bushel) | 10 decimetres cubic  |
| Litre      |                   | 1 decimetre cubic    |

SOLID MEASURE.

|            |        |                          |
|------------|--------|--------------------------|
| Stere      |        | 1 cubic metre            |
| Deci Stere | Solive | 1 tenth of a cubic metre |

WEIGHTS.

|                  |             |   |
|------------------|-------------|---|
| 100 Myriagrammes | Millier     | 1,000 livres  |
| 10 Myriagrammes  | Quintal     | 100 livres (lbs)  |
| Kilogramme       | Livre (lb.) | 10 ounces wt. of water under the volume of the cubic decimetre. |
| Hectogramme      | Once        | 10th of a liv. cont. 10 gros                                    |
| Decagramme       | Gros        | 10th of an once, cont. 10 deniers                               |
| Gramme           | Denier      | 10th of a gros cont. 10 grains                                  |
| Decagramme       | Grain       | 10th of a denier  |

The denomination "metre," has no synonyme in designating the fundamental integer of weights and measures; no measure can receive this denomination officially, if it is not a decimal multiple or dividend of this integer. The measure of *stuffs* shall be made by *metres*, tenths, and hundredths of a metre. The term *stere* continues to be employed in the measure of firewood, and in the solid measurement; in the measure of carpenters' stuff, the *stere* is divided into ten parts, called *solives*.

MONIES.

§ 217. Money is not only a medium of exchange, but it is also the measure of value of commodities, as the qualities of

merchandise and commercial objects, are designated by their prices respectively in money.

Money is either *real* or of *account*.

Money of account is a measure, or ideal quantity of money, serving to estimate the different values. So the *livre*, and the *denier tournois*, the *franc*, the *pound sterling*, are monies of account.

Real money is coin, as *louis*, *crowns*, *guineas*, *piastres*, *centimes*, &c.

Sometimes the money of account is real money, as the *centime*, the *kreutzer*, the *schelling*, and *penny sterling*.

Since 1726, the standard of French monies has undergone no alteration. Gold rated at 21 carats 22 thirty-seconds has passed for 669 livres ; 2 sous 2 deniers, the mark. From the tariff of that year, until 1729, it was augmented 4 deniers a livre. A similar augmentation took place in 1755.

Silver of the rate of 10 deniers 21 grains, could only be paid by the *directors of money*, according to the tariff of 1726, for 46 livres and 7 sous 3 deniers, the mark. The price was augmented, as was that of gold, in 1729 and 1755, 4 deniers a livre.

The declaration of the ancient government, of 30th October, 1785, ordaining a re-coinage of gold pieces, did not alter the standard of the *louis*. It was confined to the diminution of the weight, in fixing them at thirty two to the mark, and preserving the same numeral value, of 24 livres.

*Gold money*.—Ancient laws had fixed the standard of the *louis* at 22 carats, with allowance of 12 thirty-seconds.

Pure gold being expressed by 24 carats, the carat is subdivided into thirty two parts or 32 degrees of fineness ; so the 24 carats contain 768 units of 32 degrees of fineness, and represent a mark ; whence it may be seen that the mark being composed of 4,608 grains weight, each 32d of a carat was equivalent to six grains mark weight.

The coinage was judged to be good when the gold pieces



were of the rate of 21 carats and 30 thirty seconds : that is to say, that of 768 parts, there would be 692 of pure metal, and 76 of copper. Then the allowance of 12 thirty-seconds was taken on the rate of 22 carats, fixed by law, thus reduced to 21 carats 20 thirty-seconds. This allowance was much exaggerated : it was no doubt raised so high to veil the depreciation of the standard.

The ordinary standard of louis, fabricated since 1785, is 21 carats 21 thirty-seconds. Supposing they are of full weight, that is, that 32 louis shall weigh exactly a mark, the weight of each will be 144 grains. According to this weight, and the ordinary rate of 21 carats 21 thirty-seconds, each louis contains 129 grains and  $\frac{790}{768}$  of pure metal.

The gold of the same rate of 21 carats 21 thirty-seconds, was received in the mint at 747 livres 13 sous 6 deniers the mark. This mark, when coined, produced 32 louis, value 768 livres.

*Silver money.*—The standard of silver coin was fixed by law at 11 deniers, and allowance of 3 grains.

Pure silver is expressed by 12 deniers fineness: the denier is subdivided into 24 grains fineness: so that 12 deniers contains 288 grains fineness, and represents the mark of silver.

The mark, consisting of 4,608 grains weight, each grain of fineness, represents 16 grains, mark weight.

The coinage was deemed sufficient, when the piece of silver was rated at 10 deniers 21 grains, that is, when of 288 parts, 261 were of pure metal, and 27 of copper : then the allowance of alloy of 3 grains (*remede de loi*) being taken from the standard of 11 deniers, fixed by law, that deduction brings it to 10 deniers and 21 grains. It will be seen that the allowance on the silver was more moderate than that on the gold, which was excessively heavy.

Crowns of 6 livres, counted 8 and 3 tenths to a mark, with an allowance of 36 grains per mark. The coinage then was adjudged to be good when 8 crowns and 3 tenths of a crown of

six livres, weighed a mark, less 36 grains. Supposing that the crowns of six livres, were of full weight, that is, admitting that the coinage had taken no more than 36 grains, granted by law, the 6 livres crown would weigh 555 grains and 15 eighty-thirds. According to these common weights and rates of 18 deniers 21 grains, each crown of 6 livres would contain 503 grains 13 centimes of pure metal. Silver at the rate of 10 deniers 21 grains was received at the mint, at 48 livres 9 sous the mark. This mark coined, produced 8 crowns and 3 tenths of a crown of 6 livres, amounting to 49 livres 13 sous, including 2 sous for allowance (*remede de loi*).

The constituent assembly proposed a decree, April 9th, 1791, and enacted it the 15th of the same month, relative to coinage. The silence of the law, on the standard and weight of new crowns, is an unequivocal proof that it would make no innovation. The new crowns are therefore fabricated at the same rates as the old.

*Pieces of 30 and 15 sous.*—The 11th of January, 1791, the constituent assembly decreed the fabrication of a silver coinage, to the amount of 15 millions. This fabrication to be made by the standard of the crown, and with the same allowance. This coin to be in pieces, of 30 and 15 sous. The 11th of July of the same year, the assembly were of opinion, that circumstances required some modifications of its decree of 11th January preceding. It was ordained, that the pieces of 30 sous contain, in fineness, the moiety of that of the crown, and those of 15 sous, the quarter part of a crown, and that the alloys should be in the proportion of 8 deniers of pure silver with 4 deniers of copper. The 14th of August following, the assembly decreed finally, that the standard of the 30 and 15 sous pieces, though fixed at 8 deniers by the law of the 11th July, the mint directors should, nevertheless, use no more than 7 deniers 22 grains, and those found, upon trial, below this standard, should be condemned according to law. The same decree fixed the allowance on the weight of pieces of 30 sous, at

2½ grains, and that of pieces of 15 sous, at 36 grains the mark. This piece weighs really 190 grains and 70 eighty-thirds, and consequently 52 grains and 4 eighty-thirds more than the quarter of a crown of 6 livres. These 52 grains and 4 eighty-thirds, by the standard of 7 deniers, 22 grains, contain 3½ grains, 33 centimes of a grain of pure silver.

The weight allowed by the constituent assembly, additional, on the piece of 30 sous, compensates for the above mentioned difference made between the standard of those pieces and the ancient crowns. The piece of thirty sous, is intrinsically worth the quarter crown of 6 livres, agreeably to the decree authorizing that coinage.

The national convention issued sundry decrees on the coinage in February, 1793.

The *gold coins* have been fixed by that law, at 9 parts pure gold, and 1 part of alloy. The variation of standard has been fixed, at 3 millions below and 3 millions above the standard of 900 millions thereby prescribed. The weight of the piece is 10 grammes, or 188 grains and 40 hundredths of a grain.

The allowance on weight is a 4 hundredth part below, or a 4 hundredth part above, the standard prescribed by law; that is, that the coiner shall be bounded by those limits, the maximum being 10 grammes 0.25 grains, the minimum 9 and 975 parts of grammes.

The standard of this piece, compared to that of the louis, which is of 21 thirty-seconds, answers to 21 carats, and 6 tenths, or 21 and 19 thirty-seconds carats, and 1 fifth, by the common mode of expression. The standard of the new money of gold, is not found to be abased more than 1 thirty-second and 4 fifths of a thirty-second.

The louis is rated at 32 to the mark, valued at 768 livres tournois; and as was said above, each louis contains 129 grains <sup>720</sup>/<sub>768</sub>ths of pure metal, so, on these items, the comparative value of the new pieces to the old louis, may be computed, being 31 livres 6 sous 4 deniers 82 centimes.

*Silver coins.*—The same law has fixed the standard of the silver coin at 9 parts of pure metal, and 1 of alloy. It fixes the allowance on the standard of 7 milliemes below, and 7 milliemes above, the prescribed standard ; that is, that the silver coins may be 7 milliemes below, or 7 milliemes above, the standard of 900 milliemes.

The same law ordained the fabrication of three sorts of pieces ; of 1, of 2, and of 5 francs. The piece of 1 franc rates at 5 grammes, or 94 grains 205 milliemes. That of 2 francs at 10 grammes, or 188 grains 41 centimes. That of 5 francs at the rate of 25 grammes, or 471 grains 25 milliemes. The allowance on weight is 1 hundredth below, and 1 hundredth above, that prescribed by the law. The maximum and minimum being, on the franc, 5 grammes and 025

|         |    |     |     |
|---------|----|-----|-----|
|         | 4  | do. | 975 |
| 2 franc | 10 | do. | 050 |
|         | 9  | do. | 950 |
| 5 franc | 25 | do. | 125 |
|         | 24 | do. | 875 |

The new silver money being made by the standard of 9 parts of pure metal, and one part of alloy, the piece of 5 francs contains 22 grammes 5, or 423 grains 9 centimes pure metal. Comparing this standard with that of the crown of 6 livres, which is of 18 deniers, 21 grains, it is found to answer to 10 deniers and 8 tenths, or 10 deniers, 19 grains and 1 fifth, according to the usual expression. So the standard of the new coin is debased by 1 grain, 4 fifths. We may perceive from the premises—

1st. That the crown of 6 livres is current at 8 and 3 tenths to the mark, worth 49 livres, 16 sous.

2d. That it weighs 555 grains and 15 eighty-fifths.

3d. That it contains 503 grains and 1 tenth of pure metal. So the *livre tournois* represents the 6th part of 503 grains and 1 tenth, or 83 grains, 85 centimes of pure metal.

The piece of 5 francs contains 22 grammes, 5, or 423 grains

92 hundredths pure metal ; so, the franc representing the fifth thereof, that is, 4 grammes 5, or 84 grains 78 centiemes also, of pure metal.

For, the difference between this last quantity, constituting a franc, and that which corresponds to the livre tournois, is 93 centiemes of a grain. The franc then represents 93 centiemes of a grain of pure metal more than the livre tournois, which is one and a quarter per cent.

If, after these premises, we compare their numeral value, it will be found that the franc is equivalent to 1 livre, 0 sous, 2 deniers  $\frac{168}{250}$ ths of a denier tournois, or as 81 to 80.

The *integer of money* is a piece of silver of the weight of 5 grammes, composed of 9 parts pure silver and 1 part alloy ; it is denominated *franc*, and is subdivided into decimes and centimes. The *franc* contains 9 tenths of the weight of 5 grammes of pure silver, equal to something more than 94 grains, mark weight; it is equivalent to 1 livre, 0 sous, 3 deniers. The decime is the 10th part of the franc, equal to 2 sous and 3 tenths of a denier. The centime is the hundredth part of a franc, is equal to 2 deniers, 43 hundredths of a denier.

The gold pieces contain, as well as those of silver, a tenth part of alloy and nine-tenths of pure metal.

An octo-gramme of gold, is  $15\frac{1}{2}$  the weight of silver, worth 25 francs.

The kilogramme of gold is actually valued at 3,375 francs, as fixed by the institute.

#### ADMINISTRATION OF MONIES.

§ 218. There is a general administration of monies residing at Paris, composed, according to the law of the 22d Vendemiaire, year 4, of three persons.

It is charged throughout the whole extent of the republic, with the execution of the laws relating thereto; the coining, coiners, building, and utensils of the mints. It verifies the standard of coins, and adjudicates on the work of the directors.

It proceeds at all times that may be deemed necessary, to verify the standard of foreign coins newly made, in order to note the changes that may be discovered.

The mints for coinage, are ten in number, as per table following.

| Names of Cities. | Letters distinguish-<br>ing the emissions<br>of each. |   |
|------------------|---|---|
| Paris            | A   | The laws permit the establishment of work shops, in a temporary way, and for times of need, for the making of copper coins. |
| Perpignan        | Q   |   |
| Bayonne          | L   |   |
| Bordeaux         | K   |   |
| Nantes           | T   |   |
| Lille            | W   |   |
| Strasburg        | B B   |   |
| Lyon             | D   |   |
| Geneva           | G   |   |
| Marseilles       | M   |   |

*Note.*—FRENCH SILVER COINS, by *English Assay.*

|  | oz. | dwt. | gr. | = | ster. value          |
|--|-----|------|-----|---|----------------------|
| 1. Ecu, or crown of Louis 16th.                      | 0   | 18   | 18  | = | 0 4 7 $\frac{3}{4}$  |
| 2. The convention ecu or piece of 5 francs.          | 0   | 16   | 0   | = | 0 3 10 $\frac{3}{4}$ |
| 3. The ecu or crown of 6 livres                      | 0   | 18   | 18  | = | 0 4 8 $\frac{1}{4}$  |
| 4. The ecu, or 5 franc piece of the Emperor Napoleon | 0   | 16   | 2   | = | 0 3 11 $\frac{1}{2}$ |
| 5. The French ecu, or crown of Louis 15th            | 0   | 18   | 12  | = | 0 4 7 $\frac{1}{2}$  |
| 6. Consular ecu, of 5 francs                         | 0   | 15   | 12  | = | 0 3 10 $\frac{1}{4}$ |
| 7. Half crown of Louis 14th                          | 0   | 8    | 18  | = | 0 2 2 $\frac{1}{4}$  |
| 8. The 2 franc piece of Bonaparte                    | 0   | 6    | 12  | = | 0 1 6 $\frac{3}{4}$  |

# MONIES.

157

|  | oz. | dwt. | gr. | = | ster. | value |
|--|-----|------|-----|---|-------|-------|
| 9. The 24 sous piece of<br>Louis 14th . . . .    | 0   | 4    | 18  | = | 0     | 1 2½  |
| 10. The demi franc piece of<br>Bonaparte . . . . | 9   | 1    | 11  | = | 9     | 0 4½  |

## GOLD COINS.

|   |   |   |    |   |   |       |
|---|---|---|----|---|---|-------|
| 1. The 40 franc piece of<br>Bonaparte . . . . | 0 | 8 | 7  | = | 1 | 11 7½ |
| 2. 20 do. . . . .                             | 0 | 4 | 3½ | = | 0 | 15 9½ |
| 3. Louis d'or . . . .                         | 0 | 4 | 22 | = | 0 | 18 7½ |

*Sir Isaac Newton's table of French Silver Coins, prior to 1700.*

|  |   |    |    |   |   |     |
|--|---|----|----|---|---|-----|
| 1. Old ecu, of 60 sols tour-<br>nois . . . . .   | 0 | 17 | 12 | = | 0 | 4 0 |
| 2. New ecu, of 5 livres or<br>100 sols . . . . . | 0 | 19 | 14 | = | 0 | 5 0 |

*Ditto—French Gold Coins, prior to 1700.*

|                           |   |   |   |   |   |      |
|---------------------------|---|---|---|---|---|------|
| 1. Old Louis d'or . . . . | 0 | 4 | 8 | = | 0 | 16 9 |
| 2. Half do. in proportion |   |   |   |   |   |      |
| 3. Quarter do. do.        |   |   |   |   |   |      |
| 4. New Louis d'or . . . . | 0 | 5 | 5 | = | 1 | 0 6  |
| 5. Half in proportion     |   |   |   |   |   |      |
| 6. Quarter do.            |   |   |   |   |   |      |

In billon, or base-silver, a 2 sous piece, and a 1 sous piece, worth something more than 1½d sterling.

In silver, an ecu of Louis 15th of 1729, of 6 livres value 5s. 3d. also halves, 5ths or 24 sous piece, and 20th or 6 sous piece.

In gold, Louis d'or worth about 20s. 6d. the half and double of the same type.

(*Edes' Coinage.*)

## ROADS.

## EXHIBIT OF TWENTY-EIGHT ROUTES FROM PARIS TO THE FRONTIERS

§ 219. 1. Paris to Ostend—By Senlis, Peronne, Cambray, and Lille, distance 350 kilometres,  $87\frac{1}{2}$  leagues.

2. Paris to Anvers—By Senlis, Compeigne, St. Quentin, Mons, and Bruxelles, 324 kilometres,  $85\frac{1}{2}$  leagues.

3. Paris to Gueldres—By Senlis, Peronne, Cambray, Valenciennes, Mons, Bruxelles, Louvain, Diest, Bochott, and Ruremonde, 452 kilometres, 113 leagues.

4. Paris to Cologne—By Soissons, Laon, Vervins, Avesnes, Maubeuge, Charleroy, Namur, Liege and Aix la Chapelle, 484 kilometres, 121 leagues.

5. Paris to Coblenz—By Chalons Sur-Marne, Verdun, Longivy, Luxembourg, and Treves, 532 kilometres, 133 leagues.

6. Paris to Mayence—By Chalons Sur-Marne, Verdun, Metz, Sarre-que-mines, Deux-ponts, Grumbach, and Bingen, 566 kilometres,  $141\frac{1}{2}$  leagues.

7. Paris to Manheim—By Chalons, Sur-Marne, Verdun, Metz, Sarrebruck, Kaiserslautern, and Turekheim, 518 kilometres,  $129\frac{1}{2}$  leagues.

8. Paris to Strasburg—By Chalons, Vitry, Sur-Marne, St. Dizier, Toul, and Nancy, 486 kilometres,  $121\frac{1}{2}$  leagues.

9. Paris to Basle—By Troyes, Langry, Vesoul, and Belfort, 484 kilometres, 121 leagues.

10. Paris to Geneva—By Troyes, Dijon, Lous le Saulnier, and Gex, 586 kilometres,  $146\frac{1}{2}$  leagues.

11. Paris to Turin—By Auxerre, Dijon, Chalons, Sur-Saone, Macon, Lyons, Bourgoin, Chambery, and Mont Cenis, 640 kilometres, 160 leagues.

12. Paris to Antibes—By Moulins, Roanne, Lyons, and Grenoble, 946 kilometres,  $236\frac{1}{2}$  leagues.



13. Paris to Marseilles—By Moulins, Roanne, Lyons, Valence, and Aix, 808 kilometres, 202 leagues.

14. Paris to Montpellier—By Moulins, Roanne, Lyons, Valence, Pont-Saint-Espirit, and Nîmes, 730 kilometres, 182½ leagues.

15. Paris to Perpignan—By Orleans, Bourges, Gueret, Limoges, Tulle, Cahors, Toulouse, Carcasconne, and Narbonne, 928 kilometres, 232 leagues.

16. Paris to Barege—By Orleans, Bourges, Gueret, Limoges, Perigueux, Auch, and Tarby, 900 kilometres, 225 leagues.

17. Paris to Bayonne—By Orleans, Bourges, Gueret, Limoges, Perigueux, Bourdeaux, and Mont de Marsan, 852 kilometres, 213 leagues.

18. Paris to Bordeaux—By Chartres, Vendome, Tours, Poitiers, and Angouleme, 608 kilometres, 152 leagues.

19. Paris to Rochefort—By Orleans, Tours, Poitiers, and Niort, 512 kilometres, 128 leagues.

20. Paris to Nantz—By Chartres, Le Mans, and Angers, 380 kilometres, 95 leagues.

21. Paris to L'Orient—By Dreux, Alencon, Laval, Rennes, and Placermel, 486 kilometres, 121 leagues.

22. Paris to Brest—By Dreux, Alencon, Laval, Rennes, Saint Brieux, and Morlaix, 988 kilometres, 147 leagues.

23. Paris to St. Malo—By Dreux, Alencon, Laval, and Rennes, 424 kilometres, 106 leagues.

24. Paris to Cherbourg—By Mantes, Evreux, Lisieux, Caen, Bayen, and Valogne, 352 kilometres, 88 leagues.

25. Paris to Havre—By Rouen, and Ivetot, 210 kilometres, 52½ leagues.

26. Paris to Dieppe—By Rowen, 182 kilometres, 45½ leagues.

27. Paris to Calais—By Amiens, and St. Omer, 374 kilometres, 68½ leagues.

28. Paris to Dunkirk—By Senlis, Peronno, Arras, Bethune, Saint Omer, and Bergues, 316 kilometres, 79 leagues.

## THE MAKING AND REPAIR OF ROADS.

§ 220. The roads were much abused in the early part of the revolution, as their repair was payable for out of the public treasury, the Corvée having been abolished, it was replaced by a tax for the support of the roads, in the following proportions:

For the distance of 5 kilometres—

For each horse or mule yoked to a waggon or cart, 10 centimes.

For each ox yoked to a waggon or cart, 5 centimes.

For each horse or mule yoked to a carriage on springs, 15 centimes.

For a horse or mule mounted, 10 centimes.

For a horse or mule pack loaded, 5 centimes.

The produce of this turnpike tax is assured for three consecutive years, at the end of which time the gates are removed.

By a law of 28th Floreal, year X, it is enacted, that the carriages employed as stages or mails, cannot exceed (comprehending carriage and burthen) the following proportions—

During five months, counting from the 15th Brumaire to the 15th Germinal—

Carriage or waggon and 4 wheels, 450 myriagrammes.

Do. 2 wheels, 250 do.

Do. waggon of 4 wheels with felloes of 25 centimetres (9 inches 3 lines) broad, 550 myriagrammes.

Do. cart of 2 wheels with felloes of 25 centimetres (9 inches 3 lines) broad, 350 myriagrammes.

During seven months, counting from the 15th Germinal to the 15th Brumaire—

Carriage, waggon of 4 wheels, 550 myriagrammes.

Do. cart 2 wheels, 375 myriagrammes

Do. waggon 4 wheels with felloes of 25 centimetres (9 inches 3 lines) broad, 650 myriagrammes.

Do. cart of 2 wheels with felloes of 25 centimetres (9 inches 3 lines) broad, 475 myriagrammes.

## CANALS

§ 221. *Serving for the interior navigation of France.*

§ 222. *Canal of the Alps.*—This canal has two branches communicating with the Durance and Rhone. They both begin at Malle-Mort, and at a little distance thence they divide; one runs north-west, and fertilizes the fine plains of D'Orgon, St. Remy, Barbantane, and Tarascon, where they communicate with the Rhone: the other running from north to south, waters the territory of Arles. Though all the ramifications of this canal cannot yet be fairly developed, we may rest assured, that the revolution it is likely to accomplish in the agriculture of the department of the Bouches du Rhone, will produce a surplus of forage in this department, where heretofore the crop fell short of the consumption.

§ 223. *Canal of the Ardennes (projected).*—This canal opens a communication between the Meuse and l'Aisne, by the small river Bar, which passes into the Meuse, below Donchery. It is to carry the Bar to l'Aisne, a space of 3 leagues, thereby opening the passage from the Rhine to the ocean, by the Meuse, the Bar, the Aisne, the Oise, the Seine; thus facilitating the transfer of merchandize from Holland, by the interior of France, and the marbles of Jemmappes, and the Sambre and Meuse, the slates of Mezccres, the timber of Ardennes, &c.

§ 224. *Canal of Bourdignon, (dep. du Gard).*—Is a small canal connecting d'Aigues Mort with the Rhone.

§ 225. *Canal of Briare.* This canal is nearly 20 leagues in length, and is supported by 42 locks. It is the first work of the kind attempted in France. It falls into the Loire near Briare, ascends northwards to Montargis, strikes the Loing at Cepoix, where it receives the Orleans canal; after that junction, the Loing is rendered navigable to the Seine, below Nemours.

§ 226. *Canal of Bruck (Lower Rhine).*—This canal is four

leagues in length, declination of 84 feet. It brings the Molsheim to Strasburg.

§ 227. *Canal of Brullee and of the Seine and Oise (projected).* A decree of 30th January, 1791, authorised citizen Brullee to open, at his own expence, a canal, commencing at the river Tuvronne, near the bridge of de Souilly, and coming in between la Chapelle and la Valette, there running into two branches; one ending on the Seine, passing by the ditch of the arsenal, after having traversed the Fauxbourgs, Saint Martin, and the Temple; and the other passing St Denis, in the valley of Montmorency and Pierrelaye, connects the Seine and Oise. The same law enables him to execute, at his proper cost, the remaining part of the project—1st. From Souilly to the Ourcq, at its junction with the Marne—2d. From Pontoise to Dieppe, passing by Gournay. Circumstances obliged M. Brullee to suspend his labours, and in Messidor, year V, he ceded to citizen Solages & Co. all the rights granted by the law of the 30th January, 1791, and all those which might result from the petition presented to the Legislative body, tending to obtain a new law, authorising him to renew his labours, he abandoning to them all his plans, levels, memoirs, &c. From that time citizen Solages, being successfully occupied with a new system of navigation, found himself obliged to make great alterations in the plans of Brullee, which presented too many obstacles in their execution.

Abandoning the locks used in the old canal, and which expend a vast volume of water for the passage of a single boat, citizen Solages substituted a movable seive lock, requiring only the one hundred and twentieth part of water necessary, in the use of a common lock, and of which the descent varies from three to forty-five feet. This new machine, invented by citizens Solages and Bossu, has obtained the approbation of the national institute, the suffrages of the jury of arts, and its authors have merited the first gold medal, decreed to artists by the government. After three years experience, M. Solages

begins to settle his plans. He proposes to conduct into a bason of distribution, between la Pellette and la Chapelle, by a canal as a feeder only, with an uniform descent of five inches each 100 toises, a part of the water of the river Ourcq, the salubrity of which is acknowledged.

Drawing from the bason a part of the waters, after having passed a filtre, they shall be distributed in the different quarters of Paris, according to the wants of the inhabitants, serving for the embellishment of its gardens, squares and public walks.

In 1676, the engineer Manashad, conceived and commenced a part of this project.

The surplus of water, after the point of separation, feeds the canal of the Seine and Oise, which shall begin at Paris, in the ditches of the arsenal, and end at Pontoise, having passed St. Denis, and traversed the valley of Montmorency.

Government, convinced of the utility offered by this project, proposed, the 17th May, 1802, to the legislative body, the opening of this canal, and the proposition was enacted into a law the 29th of the same month. Thus we are induced to hope, that in a few years Paris will enjoy all the advantages above detailed, promised by the canal.

This canal may be continued to Rouen, from whence a branch may be extended to Dieppe; between Paris and those towns, the commerce would be more active, as the meandering navigation of the Seine would be dispensed with.

§ 228. *Canal of Bruxelles and Anvers*—Secures the communication between the Seine and Escaut, by the river de Ruppel, which falls into it. It passes by Malines.

§ 229. *Canal of the Centre*—At first known by the name of Canal du Charolais. It traverses the department of Saone and Loire, by which its course is limited; its use is to establish a communication between Saone and Chalons, with the Loire, at Digoin. The point of separation is at the lake of Longpendu, at a little distance from the establishment of Mont Cenis, in the Seine department. It is about 20 leagues long, and the

distance is not far from Blanz, from whence the military articles, made at Mont Cenis, are transported. The reservoir is fed by the waters from a spring, issuing at the foot of those establishments, and which passes a vaulted mountain, through the space of about 1363 metres, 88 centimetres, 700 toises. The benefit of this canal is in connecting the Mediterranean, by the Rhone, to the ocean by the Loire, to the English Channel by the canal of Briare, and to the Seine, passing through Paris.

§ 230. *Canal of the Cote d'Or, or Canal de Bourgogne*.—This canal is 50 leagues long. It connects the Saone and Yonne, receives the waters of the rivers Armanche and Armancon, a league and a half from Joigny. This canal was projected in the reign of Henry 4th.

§ 231. *Canal de Craponne (Bouches du Rhone)*—Is drawn from the Durance, traverses and fertilizes the Crau d'Arles, and falls into the Rhone at Arles. It is not navigable, but it turns several mills.

§ 232. *Canal of Douay, to Lisle and to Lens*—This canal was accomplished in 1686, by the orders of Louis the 14th, and that of Lens to Lille, already existing by the river la Deulle to Lille, continuing by the river Basse Deul. It passes on to its junction with the Lys at Warneton; it communicates with the sea by other channels; by this means the Lys and the Deul communicate with La Scarpe, and this with L'Escaut. There is a scheme projected, to join L'Escaut with La Somme by a subterranean canal.

§ 233. *Canals of La Fere to Landrecies, and of Maubeuge to Brussels, projected*—Effects the junction from the Sambre to the L'Oise. This canal, projected by the engineer La Fitte, may perhaps be continued from Maubeuge to Brussels, passing by Mons. It was prepared by citizen La Fitte, that it should serve also as a line of military defence; but our victories having extended the limits of our territory, and this canal being at this time far from our frontiers, can serve but one purpose, in

connecting Paris with the northern departments. This system, adopted by M. Solages, has obtained the assent of the most distinguished engineers.

§ 234. *Canal of Givors*—This canal, which is begun, is to conjoin the Rhone to the Loire, by the little river Gier, which falls into the Rhone at Givors, after having watered Saint Chamond and Rive du Gier. There is but a short distance to cut, to open the communication between this and the little river Furan, which falls into the Loire a league above St. Lambert; but the advantages of this river for the milling of silk, paper, and the manufacture of arms at St. Stephen, will require, according to appearance, a cut from St. Chamond to St. Rambert, a distance of about five leagues.

§ 235. *Canal from Louvain to Malines*—This canal opens the communication between Louvain and Malines; it is four leagues long, 60 feet wide, and eleven feet deep. The bateaux that ply in it are 60 feet in length, and 12 feet in breadth; they draw 2 or 3 feet water. The country, in its neighborhood, has doubled in value in the space of fifteen years, owing to the facility of transport.

§ 236. *Canal de Lucon*—This canal goes from Lucon to the sea; it is navigable throughout its extent of 2 leagues; it returns the merchandize of Rochelle and the isle de Rhe.

§ 237. *Canal de Lund, or du Gard*—This canal debuts on the lakes of Thau, and on the sea.

§ 238. *Canal of the Meuse, to the Rhine*, known by the name of *Fosse Eugénienne*, because it was in some sort, begun by orders from the famous Prince Eugene, of Savoy. The Meuse approximates the Rhine near Venloo, and presents in that place, the beginning of the canal, which is of great use in connecting the two rivers, passing by Gueldres, and debutting near Rheinsberg.

The Spaniards began this canal in 1626, by the aid of which the Belgians might have a commerce, in territorial productions, with lower Germany. At this time it is of great

utility, from the new limits of France, and the contiguity of the territory. It will not require much expence for its completion.

§ 239 *Canal of the South, or of Languedoc*.—This canal does honor to France, and is worthy to be cited along with the monuments of the Romans. It connects the ocean with the Mediterranean, at a distance of 45 leagues. It was executed by Pierre Paul Riquet, from the plans of the celebrated Andreossy, who had conceived the project of it. It was necessary to cut through mountains, elevate valleys, and sustain them by mounds of earth. A bason was formed at Norouse, of 200 toises long, and 150 toises broad, that being the highest point of elevation between the two seas, and which is made the *point de partage*, or fountain, of the two extremities. To replenish this reservoir, so that it might not be exhausted, the bason of St. Ferol has been constructed, 1,200 toises long, 500 toises wide, and 20 toises deep; the shape is triangular, shut in by two mountains, and by a great and strong dyke, serving as a base. This dyke is traversed by an aqueduct, which carries the water to the bason of Norouse, which thereby is always able to supply the canal. There is still two considerable works to be done, one near Carcassone, ordained by the late states of Languedoc, and of which the labours, commenced at its expence, are already pretty well advanced; the second is worthy of the nation, and throws into shade the most famous of those of Rome; it is an aqueduct bridge of great extent, which crosses the river Orb at Beziers, and on which carriages may roll, along side vessels navigating under sail. The repairs of this canal have been so complete, that it presents every where the ornamental blended with the useful. It surpasses, even in pleasantness, the fictitious canals introduced by luxury into parks. It is observed, that the shrubs and flowers, which afford smiling borders to its banks, are also conducive to their preservation.

§ 240. *Canal du Morbihan*.—This canal communicates with



Vannes and the sea. The fishboats ascend by it to Vannes. It is but a league long.

§ 241. *Canal of Nièvre (projected)*.—Conjoins the Upper Loir to the Seine. The lake of Baye will serve to establish a communication between the Loire and Yonne, and that canal becomes important by its proximity to that of Cote d'Or. For this end the mountain Colancelle must be pierced, the government even having ordered it; seven funnels were required to facilitate the excavation, renew the air in the canal, and afford light for the batteaux in passing, the burthen of which to be 45 tons.

§ 242. *Canal of Orleans, or, Du Loiret*.—This canal communicates with that of Briare, and joins, for the second time, the Loire to the Seine: it begins at Port Moran, and unites with the river Loing, by a course of 18 leagues, continues with that river, passing by Nemours, and joins the Seine below Moret. This canal is sustained by thirty locks; it was accomplished in 1692, after having been ten years in constructing. In 1720, the canal of Montargis was made, the river Loing being impracticable for boats, from Montargis.

§ 243. *Canal from Ostend to Bruges*.—There are three canals communicating from Bruges to the sea; that called La Keye, passes Daune, and from thence to the sea; the second, in the vicinage of the first, has been cut, from its having been perceived that the former would shortly fill up; the last is fit to hold vessels of 400 tons, which may proceed from the sea to Bruges, by means of locks constructed at Lieke and Plassendal, and which are defensible by forts: the third is the canal of Ostend, conducting to the centre of the city of Bruges, vessels of 2 or 300 hundred tons; the bason on which it debuts, and which serves as a harbour, is so vast that it will contain a hundred merchant ships. The merchandize imported from Bruges by this canal, are sent farther on to Gand, by the Scheldt, and from Gand, transported by other canals, into different cities of the ci-devant Belgium. It may be remarked, that the rivers

Scheldt, Scarpe, and Lys, communicate by canals, and pass on towards Tournay, Menin, Lille, and Douay, rendering the navigation very active in this part of the north-west of France, where the communications, from point to point, afford an easy transport.

§ 244. *Canal de Provins (projected)*.—This canal was projected by Mareschal Vauban, to render the little river De Vouzie navigable, the source of which is in the north of Provins. Its course would terminate on the Seine near to Bray; its length about three leagues. It would be of great use for mutually provisioning Paris and Provins.

§ 245. *Canal from the Rhine to the Bouches du Rhone (projected)*.—This canal was projected by the ingenious general Lachiche, in 1744: it offers an important communication, the greatest perhaps that France could establish, to extend within and without, its commercial relations; to transport the vast woods of Vosges, and of the Jura; to sustain the activity of interior commerce, even in time of war; to cover our frontiers with a double line of defence; that the trade of the Levant and Texel might avoid a voyage of eleven or twelve hundred leagues, amidst many dangers, and of uncertain duration. A favorable scite at Valdieu, permits the establishment of a constant navigation, which on one side descends by the Doubs, the Saone, the Rhone, and Mediterranean, and on the other, by the Ille, the Rhine, and the German ocean. Its execution is easy, and assured: a branch might be thrown out toward Huningue, thereby augmenting our commercial relations with the Helvetic republic.

§ 246. *Canal from the Rhine to the Seine (projected)*.—This canal was projected in the year 1801, by M. Prault Saint Germain, to commence at Drugenheim, at the entrance of the river Zoorn, in the Rhine, about six leagues from Strasburg; passes by Brumpt, Hachfelden, Saverne, Phalsbourg, and Lixheim, traversing the lakes of Stock, and Indre; passes by Guernance, Dieuze, Marsal, Vic, Nancy, Frouard, Toul, where it

joins the Meuse, and reaching the Marne, passes to Paris. Should the plan be adopted by government, it would render Paris the centre of the commerce of Germany and the north of Europe.

§ 247. *Canal de la Robine, or de l'Aude*.—This canal communicates with that of the South, passes Narbonne, where it is navigable, and falls into the Mediterranean by the port of Nouvelle.

§ 248. *Canal de la Rudelle*.—This canal communicates with that of Aigues Mort, from the Rhone to the lakes, and to the sea.

§ 249. *Canal of St. Quentin, projected*.—This canal has five branches. The first and chief is to connect the Somme to the Escaut, between Belgium and Paris, by St. Quentin and Cambray. This canal already begun, approaches to its completion, on the plan of the engineer Devic, adopted by the national institute, and approved by the consular arrete of 11th Thermidor, year X. It is to be directed, in departing from St. Quentin, by Omissy, le Tronquoi, Bellinglis, Riqueval, and Maquincourt. This branch serves particularly for the transport of pit coals, from the mines of Valenciennes, department of Jemappe. The second branch connects the Oise and Somme. It begins at Chauny, passes St. Simon, where it branches anew, at the Oise near Moy, and terminates at St. Quentin. The third establishes the communication from the Oise to the Somme by Perronne. It transports pit coal from the mines of Anzin. The fourth joins the Sambre to the Escaut, between Charleroy and Brussels, in a point the most important for commerce. This outlet is essential to the transport of the coal of Sambre, to Anvers, and the last, or *Censee*, has always been considered as a dependance of the canal of St. Quentin. It opens the navigation between Calais, Dunkirk, Lille, Douay and Paris.

## SUPPORT, REPAIR, AND RIGHTS OF INTERIOR NAVIGATION.

§ 250. By a law of 30th Floreal, year X, there is exacted throughout the republic, a toll on the interior navigation, on the rivers and streams, and on the canals not yet subjected to individuals.

The produce of this toll is appropriated to the respective prefectures, for the support of roads, bridges, channels, locks, banks, and other works of art, for the advantage of navigation. The tolls shall be levied by the advice of the principal merchants, traders, and waterman, who frequent them.

## PUBLIC INSTRUCTION.

§ 251. It is only a few years since this subject attracted general attention. Without doubt there were formerly many grand establishments for the purpose of education, but they were formed successively, age after age, as circumstances directed. *In some places it was religion*; sometimes it was vanity, that founded schools of all kinds, the colleges, seminaries, &c. In vain may we seek information for some connection between the objects of study, or a systematic and rational gradation among those establishments.

It is known to the world what views of the mode of instruction existed before the revolution. The colleges particularly were briskly attacked; and it was openly asserted that a man's education began but at the time he quitted college; that he lost there eight precious years of his life, and so forth. In fact, Latin and Greek were but imperfectly taught at college; useful knowledge was neglected entirely; geography, natural history, mathematics, and many other sciences, were taught by books merely, or privately at the house of some professor. After the revolution some writers appeared to regret the loss of that ancient mode of instruction: they have mentioned many great men from those schools, so much decried. But the most part of these

great men, are just those proper to exhibit the vices of their ancient education: having retraced all obstacles necessary to be surmounted, in order to arrive, in despite of the faulty institutions of their time, to a degree of superiority, meriting general admiration. It is, however, certain, that in some respects these colleges have produced useful results. Without them the languages of Homer, and of Virgil, would have but few admirers, and might be forgotten almost in our day. It is in the colleges, thanks to the severe rules that were there rigorously followed, that subordination was habituated, and the performance of duty rendered so strict, that the too zealous detractors of those ancient institutions, are nearly as much in the wrong as their new apologists.

Considering the public opinion, it is surprizing that our national assemblies did not undertake a new organization of the system of instruction. Every where projects were discussed, but the more they were examined the more difficult it was to fix on a system. The colleges, however, had been suppressed, and the professors scattered; the academies also shared the same fate.

This state of things continued till the year III, when the convention having organized a government, enacted the law of the 3d Brumaire, year IX, respecting public instruction. That law is the foundation of the system remaining to this day, with some subsequent modifications.

§252. The law of the 3d Brumaire, year IV, recognizes two general grades of education. In the *primary schools* are taught reading, writing, and accounts; in fine, the learning indispensable for all. Whether it was difficult to find a sufficient number of men who would teach these rudiments, or whether the spirit of party opposed the establishment of those schools, it is uniformly true, that they have not prospered in any of the communes of the republic. In the large cities, the parents rich or merely easy, sent their children to other masters than those provided by the government. The poor kept

their children at home to aid them in their labours. The tutors, whose moderate stipend was either not paid at all, or not paid regularly by the constituted authorities, very soon abandoned a situation from which they derived no consideration, nor even the means of existence. Of those attempted, a twentieth only, at the most, offers any appearance of success.

§ 253. It has been otherwise with the second grade of instruction, the *central schools*. During the three first years they languished, but few scholars offering; but the choice of professors being generally good, and ardently endeavoring to inspire confidence, the youth, in most of the departments, followed their courses with avidity. All was re-animated; literature, particularly in the exact sciences, was better cultivated than it had ever been. These schools formed very soon a great number of men of letters, at least instructed in mathematics, natural history, and designing.

Tuition is comprised in three sections. In the first, there is a professor of design, one for natural history, one for ancient languages, and another for the living languages, when the local authorities think it proper. For the second section, there is a professor for the elements of mathematics, one for physics, and experimental chemistry. For the third, a general professor of grammar, one of belles-lettres, one of history, and one of legislation.

With each central school, there is a public library, a garden and cabinet of natural history, a cabinet of chemistry and experimental physics.

One fault of the organization was, its being the same for all the departments; for, the institutions required by Marseilles and Bordeaux, are altogether out of place at Bourg, Gueret, and Quimper, &c. It resulted, that in many cities, the central schools offered preceptors enough, but no students. It was also found that the interval between the primary and central schools was too great. In the latter, the languages not being sufficiently cultivated, there being but one professor, and

the students were not sufficiently disciplined. These censures were well founded, but most of the schools no longer deserve them; in some are established *pensionnats*, where exact discipline is maintained; the days and hours of lessons are so well calculated, that no time is lost, and the student is at the same time following several courses, without any jarring interruption.

The destruction of some central schools is perceived but little in a few departments, but if in considerable number, would be much to be regretted: they have at least produced the effect of rendering more common the knowledge of the exact sciences, as we owe to them the establishment of schools of design, collections of paintings, cabinets of natural history, and of physical instruments; but above all libraries, at those points of the republic, where such things were before unlooked for. It is to be expected that the inhabitants of those places will make some sacrifices to support those establishments. The same law of the 3d Brumaire, which founds the central schools, preserves or creates also a sufficient number of *special schools*, of application, or public service. As the law establishing a new system of instruction, has not annihilated the last kind of schools, their continuance may be presumed.

On this plan the public instruction will form, in the budget of general expences, an item of 7,310,000 francs, exceeding the actual expences of instruction by 2,000,000 francs.

#### NEW PLAN OF INSTRUCTION.

§ 254. The last law on the subject of public instruction, enacts—

1st. Primary schools; to be established by the communes. The parents who bring their children there to be instructed, to pay a retribution to be determined by the municipal councils: besides this retribution, the institution shall have a school room, furnished by the communes.

2dly. Secondary schools; each school established by the

communes, or held by individuals, in which are taught the Latin and French languages, the rudiments of geography, history, and mathematics, shall be considered as a secondary school. Instruction shall not be gratuitous in these schools, but government shall encourage their establishment, either by the concession of local scites, or by a grant to the master.

3dly. The lycees for the tuition of belles lettres and sciences. There are taught the ancient languages, rhetoric, logic, morals, and the elements of mathematical and physical sciences: also, drawing, the military art, and polite accomplishments.

In the lycees are placed those to whom government would give a gratuitous education, because of their parents having rendered eminent services to the state, or because of their having acquired distinction in the secondary schools.

Each year, three inspectors general, named by the first consul, visit the lycees, to regulate accounts, examine all parts of the instruction and administration, and give an account to government.

One of the most important dispositions of the law, is that which allows 6100 student pensioners, to be maintained at the public expence, in the lycees, and special schools.

There shall be chosen by government, 2400 from among the sons of the military, or functionaries, civil, judicial, administrative, or municipal, who have faithfully served the nation. They must be at least nine years old, and know how to read and write. The other four thousand shall be selected from among double that number presented to government, from the secondary schools, after examination and concurrence. Each department, according to its population, shall furnish its number of scholars. Such students cannot remain there longer than six years at the national expence: at the close of their course, they undergo examination, after which a fifth of them shall be placed in the different special schools, according to the cast of genius in the student, there to be supported from two



to four years, at the expence of the nation. This disposition, which offers gratuitous instruction to 6400 students, would appear to draw on the destruction of the *Prytanee Francaise*, provided for the education of the military, and public functionaries, deceased in the service of their country. The law does not suppress them, and perhaps they may be modified only. We shall now cast an eye over this grand establishment.

By a decree of the consuls, but partly executed, the *PRYTANEE FRANCAISE*, has been divided into six sections, taking the name of colleges, to be placed respectively at Paris, Saint Cyr, Germaine, Compeigne, Lyons, and Brusselles. That at Paris only has been established, which, as a common centre, has preserved the name of Prytaneum, and also the colleges of Saint Cyr, and Compeigne. The number of scholars ought to be two hundred at Paris, and the same at Saint Cyr, but they are more numerous, amounting to at least three hundred in Compeigne. The first consul only decides on the admission of scholars on the representation of the minister of the interior.

Independent of the scholars supported by government, there may be received into each college, one hundred pensioners.

The revenues of the Prytaneum are composed—1st. of the produce of the effects which belong to the colleges and university of Paris, not having been disposed of—2d. By an extraordinary appropriation, by government, making an item in the budget of the minister of the interior.

The course of instruction for all students is not similar at Paris and Saint Cyr. They are divided into two sections. The first destined to civil, and the second to military life. It is at the age of twelve that they enter, by the wishes of their parents, and by the declaration of the chief teacher, and the professors. Before they enter, they learn to read and write, cypher, and acquire the rudiments of grammar. For the civil classes, there are two professors of humanity, with whom

each take a course of two years, a professor of rhetoric, and one of philosophy. For the military course there are two professors of mathematics, who make in succession a course of two years, and a professor of practical mathematics. For those two sections united, there is a professor of the German language, another of English, writing masters, and for drawing, fencing, and dancing. All are exercised in handling arms.

*The College of Compeigne* is occupied by scholars destined to the mechanic arts, and the marine. In the first section, they learn to read, write, orthography, calculation, drawing, with reference to the arts and trades they are intended for.

At the age of fourteen years they are put to apprenticeship with masters of known ability and honesty. They make a part of the college during the remainder of their apprenticeship, and may afterwards be placed either in the national manufactories or the artificer's corps, by land or sea.

The special schools are placed at the last degree of instruction, where the study of the sciences and the useful arts are completed. The ancient special schools being preserved, saving the modifications introduced by government, it is necessary to mention them here.

§ 255. *The College of France* is less a special school than a lyceum for completing the studies generally. In fact, lessons are not given in any science particularly, but in all the sciences, in all the languages, ancient and modern, and literature. It is at this time the most ancient establishment for instruction existing in France. It has been respected by the revolution; its organization is the same as formerly, and its professors had been appointed, nearly all, before the civil dissensions.

The courses of each year at the college of France are for—  
1. Astronomy, mathematics, physics generally, experimental physics, medicine, anatomy, chemistry, natural history.

2. The rights of nature and of nations; history and moral philosophy.

3. The languages, Hebrew, Arab, Persian and Turkish.

4. Greek literature, Latin oratory, French literature.

Each branch of science has a particular professor, all are, or may be lodged gratuitously, in the edifice of the college.—There is but one establishment of the kind in France; it is placed at Paris, and occupies an ancient and vast edifice.

This establishment would formerly have afforded more utility than it offers at this time. There were taught, for instance, sciences which make no part of a collegiate course. There being no other school for astronomy, chemistry, natural history, &c. At present the study of those sciences are made at several of the lycees, in special schools for one or other of them.

§ 256. The *School of Natural History*, established near the Museum, is the most complete in Europe, there is no part of the science that is not professed by learned men of acknowledged reputation. The branches taught are—Chemistry, chemical arts, botany, rural botany, zoology of quadrupeds, of the cetacea, of birds, of reptiles and fishes, of molluscas, insects, worms, and zoophytes; human anatomy, animal anatomy, mineralogy, gardening, geology, iconography.

The professors are also the administrators of the establishment. At a time appointed, they elect one of themselves, as a director, and a secretary who keeps the records, and corresponds with the minister.

The example of the professors is followed by a great number of students. It is not uncommon, for instance, to see in spring, two or three hundred persons of different ages, and of both sexes, following the professor of botany, through the walks and alleys of the garden of plants. Among the amateurs in botany, many foreigners are found. Chemistry and anatomy attract no less the attention of students. Indeed, the whole establishment is remarkably prosperous, and so far from having suffered in the revolution, it has grown by a singular concourse of circumstances.

It is proper to mention here, the professorship for the art of refining, smelting, allaying, coining, &c. of metals, termed the *docimastic sciences*. The lectures continue five months each year; the cabinet, kept with extreme nicety, is one of the most curious in Europe.

§ 257. *The Schools of Medicine.* There is at this time in France, but three medical schools; their number is about to be encreased by three others. Those existing are at Paris, Montpellier and Strasburg.

The mode of instruction is the same in each, but at Paris the professors are more numerous. The lectures are—on anatomy, physiology, surgery, medical chemistry, pharmacy, the doctrine of Hippocrates, rare cases, surgical instruments, medical literature, medical physics, hygenia, pathology, internal and external, medical natural history, obstetrics, legal medicine, medical history, drugs and clinical practice.

Many of those lectures are made by the beds of the sick. It is there, only, that the nature and progress of diseases can be well observed. So the students are obliged to attend the practice of the hospitals, and even to perform surgical operations. There is also a school for ladies who devote themselves to the lying-in branch of the profession.

§ 258. *The Veterinary Schools.*—There are two in France, one at Alfort, near Paris; the other at Lyons. The *mar-chaux-expert* must have studied at least three years at one of those schools.

In these are taught whatever belongs to the horse, horned cattle, and sheep, the feeding and medicine of animals. The scholars are also instructed in making shoes for horses, and treating diseased oxen. In each school there is a director and six professors.

The scholars are required to be not under the age of sixteen years, nor above thirty. The government furnishes gratuitously to the scholars, instruction and lodging; and besides, to each of those sent by the departments, 27 francs and 80 centimes per month.

§ 259. *School for the Deaf and Dumb, and Blind.*

§ 260. *School for the Oriental Living Languages*—Is established near the national library. At the first view it appears a duplicate of that of the college of France. There is, however, a difference: there is taught, for instance, a greater number of languages in this school; the Arabian, the Persian, the Turkish, the Armenian, and modern Greek, have their professors, whose lectures are attended by a vast number of youth, who are preparing to be drogmans. This school has furnished many who were of great use in the Egyptian expedition. It would, however, be desirable to unite the two schools in the same establishment.

§ 261. *School of Archeology*.—This school is placed near to the national library, which contains a superb cabinet of medals and engraved stones. It has but one professor: the trustee of the cabinet. Each year he gives a course of instruction, which lasts about five months, having for its object the study of medals, of engraved stones, the explication of antiques, &c. One of the superintendants of ancient statues, placed in the museum of arts, is also bound to give lectures, before those statues; but this is not yet commenced.

§ 262. *Schools of Painting, Sculpture, and Architecture*.—These are due to the celebrated Le Brun. It was he who, under the auspices of the Chancellor Seguier, founded an academy, where the most distinguished artists were educated. From this school were drawn the professors in painting and sculpture, founded under his superintendence and direction.

This academy was destroyed during the revolution, but the schools are yet preserved with some slight modifications. They must undergo new arrangements, but the ancient basis to remain.

The lessons in drawing are the work of evening, under the superintendence of two professors. In one hall, they copy after the ancient statues; in another, after models. In winter, the students use the lamp light. But it is not only in the

schools and public establishment, that the scholars study; each has his particular tutor in the profession which he designs to follow. Separate from the former is the course of architecture, an art depending upon verbal elucidation more than the other. The number of professors is twelve, with eight adjuncts.

At the first, medals are distributed, every three months, to the scholars who have drawn the best naked models.

There are two prizes of more importance, distributed annually; one founded by Caylus, the other by the painter Latour. The first is given to the best limner of a *tête d'expression*, its value is 100 francs: the second to him who paints best a demi figure, of the ordinary size, after a living model; its value 300 francs. Thus they arise in competition for the highest premiums.

On those occasions the scholars work in separate apartments, fitted up for the purpose, on a subject given out by the class of the fine arts, of the institute: the same class which judges of the sketches when finished. The painter, the sculptor, and the architect, who bear off the first grand prize, enjoy the privilege of passing five years in Italy, at the charge of government. There they are perfected, by the view and study of the best models. The school of arts at Rome, has been suspended during the war, but it is near its renovation. Already the director of this school, is occupied with the necessary preparatives for the reception of the fifteen scholars it is intended to contain. But the palace used for an academy, though very vast, and very fine, is neither well situated, nor commodious for studies. It has been the wish of the French government to transfer the school to the superb Villa de Medicis, belonging to the king of Etruria. Negotiations having been opened in order to obtain that villa, the government of Etruria has acceded to the demands of France.

§ 263. *The Conservatory of Music.*—The cathedrals, fruitful nurseries for the armies and theatres, having been sup-

pressed, an endeavour has been made to supply their places by schools for music in the departments. They are modelled on the plan of those of several Italian cities. The beginning was made at Paris, with the "*National Institute of Music*;" a name since changed for that of "*Conservatoire*." But the first perhaps expresses better the object and aim of the establishment. The conservatoire is composed of a director, six inspectors of instruction, a secretary, a librarian, thirty professors of the first class, forty-four of the second class; but the half of those members is intended to be suppressed by the minister of the interior.

The director is alone charged with the administration. The inspectors also superintend the tuition, examine the scholars, and profess composition. The tuition afforded by professors and inspectors, has for its object the various parts of the musical art, and is divided as follows—composition, harmony, air, violin, violincello, harpsichord, organ, flute, hautboy, clarinet, horn, bassoon, trumpet, tambour, serpent, gamut, preparation for singing, declamation applicable to lyrical scenes.

The establishment should contain by law, four hundred students of both sexes, in equal numbers, from each department; but this disposition has not been fully executed. The candidates presenting themselves at the exhibitions to be admitted as scholars, are almost all of Paris, at least inhabitants of it.

Every year prizes are awarded, with great solemnity, on the theatre of arts, to the distinguished students, and commonly by the minister of the interior, in the public halls devoted to the same purpose by other schools.

Many of the graduates formed in this establishment, have debuted on the theatre of arts. They have proven the goodness of the school, by their airs so pure and simple; no shrieking, good pronunciation, and no superfluous ornaments.

§ 264. *The Conservatory of Arts and Trades.*—After having given a portrait of the different establishments, formed for study, and the creation of the fine arts; let us now see, what

are the institutions which have for their object the perfecting of the useful arts. The idea was not less happy for creating an establishment where all the different implements, tools, machines, and instruments proper to all the arts and manufactures might be accommodated.

To form this grand depot, there was already on hand all the machines invented and collected by Vaucanson, and all those of which the care was given him when living. There were united all the implements, instruments, models, designs, books, &c. which have been found in the houses of emigrants, or that could be acquired either in France, or abroad; from these means have resulted one of the most important and curious establishments in Europe. It occupies an ancient convent, of vast extent, at Paris, and receives daily accessions. The law designating this establishment, ordains that it shall be composed of three demonstrators, and a designer: the first to explain the constructions and the employ of machines. The late law has provided for a professorship of mechanics.

§ 265. *Schools of Public Service.*—The necessity has been acknowledged, in certain professions, for men who have given proofs of steady application, who had employed their youth, to acquire an intimate knowledge of the principles, necessary to the exercise of those professions, and who have not only a theoretical knowledge, but in some degree a practical one. The principals of this class are—the polytechnic school, that of the land and marine artillery, bridges and roads, shipbuilding, mining, geographic engraving.

In passing from the ordinary schools, even the special schools, the scholars have not yet what is called *un état*: they must find some occasion to display themselves, and to acquire reputation. In the schools of public service, the students are almost certain, if they persevere in their studies, of their maintenance for life. With talents and favorable circumstances, they may ascend from grade to grade, and in quality of students, they already receive a compensation, sometimes suffi-



cient for their support. Without such advantages, it would not be easy to find proper subjects for public service. Who would bind himself to long and painful studies, without a certainty of not being obliged to seek other employ, or another profession?

§ 266. *The Polytechnic School.*—The number of scholars is fixed at three hundred; none are admitted as such, till after a rigorous examination, on the chief parts of mathematics. Each candidate declares the profession for which he is destined, and he cannot afterwards change his profession. The instruction given to the scholars, consists of mathematics, descriptive geometry, general physics, chemistry, and drawing. The professors are men of high attainments in those sciences. After three years' study, they are examined, and if they are found qualified to enter the schools of application, they are admitted, if not, they retire.

Each year a council of *improvement*, composed of examiners, of the class of public service, of members of the institute, general officers, &c. make a report of the state of the school, and of its advantage to the public. They also should employ themselves in ascertaining the means of further advancement, in the institution.

The school has a library sufficiently large, a laboratory very well furnished, &c. Every thing evinces that this noble establishment, though formed during the revolution, shall always be cherished. The organization of this school is entirely military. Already some students have the grade of sergeant of artillery, which affords the indigent pay sufficient for subsistence. But by the new arrangements, they are all trained in manœuvres, divided into brigades, and fully submitted to military discipline. We proceed to examine the schools for which the polytechnical schools furnish subjects.

§ 267. *The School for Bridges and Roads.*—This was instituted in 1787. It possesses the richest depot of plans, charts, and models, relative to routes, bridges, canals, and maritime

ports. The scholars, to the number of fifty, are drawn from the polytechnic school, and retain their perquisites acquired therein. These students become, in course, engineers of roads and bridges. It is of great importance to give activity to this corps; it may render much service at this time, when the administration uses every means to restore dilapidations.

§ 268. *The School of Artillery.*—This school is destined to supply to this corps, persons well instructed and experienced. The scholars of the polytechnic school, destined to that part of the military profession, complete their instruction in the school of application at Chalons. Eight schools for the different regiments are established at Fere, Grenoble, Metz, Strasburg, Douay, Auxonne, Toulouse, and Rennes. Each school has a professor of mathematics, a reviser of the past courses, and a drawing master.

§ 269. *School of Engineers.*—This school is established at Metz, where is instructed the students of all denominations, theoretical and practical, connected with fortification. As, for example, the drawbridges, plans, temporary constructions, the sham attack and defence of places, works, &c.

The scholars are usually twenty in number, and pass two years in this school, from whence they go with the grade of lieutenant, from that time commencing their service in the armies. The school has a library newly formed, but is yet deficient in models, instruments, &c.

By a law of the 12th Vendemiare, year XI, these three schools are united into one, common to both preceding branches. It is placed at Metz. It furnishes officers of artillery, for land and sea service, for the continent or the colonies. This school has a library of military arts and sciences, a cabinet of chemistry and physics, with a laboratory, a cabinet of natural history, of minerals and vegetables, capable of being employed in military uses; the materials, instruments, tools, in use in the art; the various kinds of arms, offensive and defensive, ancient and modern; machines, and means of transport; models and

reliefs, of objects too large to be placed under the eyes of the student; magazines and parks; a polygon for the exercise of fire arms, which shall be common to the artillery troops in quarters there; a polygon of mines, distributed in various sorts of earth; halls of exercise, and a menage.

Here the scholar remains two years. The first year he shall be incorporated in the two companies of cannoneers, employed in the service of the establishment. In the second he will serve six months in each of the two companies of sappers and miners, and exercise with them in the handling of arms, and all the other tactics. The scholars must remain a month in each grade of corporal, sergeant, sergeant-major, and bear the distinctive badges. At the end of the two years service, the students submit to an examination, after which they are admitted into the branch to which they are destined, and classed according to the order of their merit. They may be permitted, sometimes, to remain a third year at the school. This organization is better than the former; there is more unity in the plan of instruction, and much greater emulation among the students. We may therefore hope to see perpetuated, and even augmented, the glory of those fine corps of artillery and engineers, to which France is indebted for so many victories.

§ 270. *School for the Marine Service.*—There are schools of engineers, constructors, and other mathematical and hydrographical schools, established for the use of the marine of the state, in almost all the ports of the nation. The first, at Paris, is but of a few scholars taken into the polytechnic school. They have an allowance of 1500 francs per annum.

The other schools are divided into grand and secondary; the grand schools are situated in the thirteen principal ports. Each year, a hydrographical examiner visits each port, in order to examine the candidates, in arithmetic, algebra, geometry, statistics, and navigation.

§ 271. *School of Geographers.*—This school was founded in the year IX. It has for its aim the supply, to those admi-

nistrations that require them, of geographic engineers, instructed and capable. The figure of the earth, the geometric measures, whether angles or bases, the astronomical observations, graphic operations, relating to the forming and reducing of charts; such are the objects of study with the scholars. They have an allowance of 900 francs, and are thirty in number. The school is at Paris.

§ 272. *Schools of Mines*—Are of two kinds, practical and theoretic. Formerly there was one practical school, placed at Giromagny, department of the Upper Rhine, near to a national mine. By a decree of the 23d Pluviose, year X, enacted on the report of the minister of the interior, there are two other practical schools, for the working of mines and mineral substances. One is placed in the department of Mont Blanc, on the lead mines of Pesay; the other in the department of La Sarre, at the forges of Geislautern, near to Sarrebruck. The theoretical school is at Paris. The principal objects of study are geology, mineralogy, drawing, and foreign languages.

#### LIBRARIES.

§ 273. Their numbers have increased very much of late. There is hardly a city of 15 or 20,000 inhabitants, which has not its public library, and if we except commercial cities, where there is not several who can spare some time to the cultivation of the arts and sciences, as every where the public libraries can hardly contain the readers of different ages and sexes, who daily frequent them. Can we conclude from this, that we have at this day a much greater number of learned men among us, than at the time when we could hardly find a library in any of our great cities, and three or four readers scattered through the hall, though open only once in three or four days, for a few hours only? No; it seems that the light of knowledge, by its expansion, has diminished in splendor: there are more well instructed men at present, but fewer

learned men than formerly: more compilers, but fewer authors. Paris has four grand public libraries. That of the arsenal has been considerably augmented by its librarian, M. Ameilham. It possesses, amongst other riches, an immense collection of romance and poetry, of Italian poetry particularly. The library of the pantheon, formerly St. Genevieve, is above all celebrated for its works on antiquities. The library of the *quatre-nations*, contains rare editions, and precious manuscripts, which may be of right reclaimed by the national library. The last is not equalled by any in Europe. Before the revolution, it contained more rare books than the celebrated libraries of England and Germany. Our conquests in the Low Countries, and in Italy, have procured the most rare articles in this line. In addition to this, a learned commission has been appointed to examine and redeem every book and manuscript of any value, among the convents and monasteries on the left bank of the Rhine. The manuscripts alone occupy many large halls, each one as large as an ordinary library. The oriental manuscripts are particularly numerous, and every day adds to the number. Many precious tracts have been procured by the last expedition to Egypt.

The national institute publishes, from time to time, catalogues of the manuscripts.

#### BOTANIC GARDENS.

§ 274. *Museum of Natural History.* These kinds of establishments have rapidly multiplied. There is hardly a department without its garden, carefully tended, and rich in rare trees, shrubs and plants: near the gardens are also collections from the three kingdoms of nature. Those establishments owe their prosperity to the museum of Paris, the finest establishment of the kind in Europe. It supplies the other gardens with rare and curious plants. It is impossible to see this garden without admiration. Nothing can equal the brilliancy and the neatness uniting in the galleries, from innumerable speci-

mens of the various productions of nature, exhibited from their glass repositories. It is not our object to examine the systems under which they have been classed, nor even to detail the more rare; let it suffice to say, that in walking over this vast deposit, one may proceed from the most imperfect fossil, to the form approaching nearest to organization; from the merely organized form, to that endowed with voluntary motion; and from this to man: to ascend hereto, a vast scale must be passed over, in some degrees, of which there is a near approximation, whilst between others there seems to be a wide interval.

The menagery is not the most important part attached to this garden: though it is there our painters go to make the most faithful likenesses of the lion and tyger, to study their attitude, their wiles. Formerly, we had of savage animals, only gross and deceptive caricatures.

But a menagerie is not useful merely to the learned, when speculating on animals, either curious or useful, in mixing races, or bringing in the more ferocious to a state of domesticity. Such proceedings have not yet begun, but are a part of the original plan. In future, those animals are to be provided with lodges. The peaceable animals have the liberty of a park, lightly palisaded, which hinders not observation; the indocile are more closely secured. The cages, the nurseries, the garden, consecrated to study, the plants, arranged according to the method of Jussieu, offer increasing interest. To this garden, France owes the numerous trees naturalized over its surface, as the great chesnut, the acacia, pines of different kinds, maples, &c. Almost every year, there are distributed from ten to twelve thousand packets of seeds of plants, rare and useful, and five or six thousand cuttings, grafts, or young plants of trees, whose increase appears to be desirable. In this way are formed complete collections of specimens of natural history, for the departmental gardens.

§ 275. *Bureau of Longitude.—Observations—*This estab-

ishment was made in the year 3, nearly on the model of that of London, which had rendered such important service to the marine and to astronomy. A board, composed of our best geometers, astronomers, and geographers, have applied themselves to perfect the astronomical tables, and the method of taking longitudes. There is published regularly an *Annuaire*, with occasional observations on astronomy.

There is in France, five or six observatories, one of which is at Paris, one at Brest, and the others in the southern departments. That at Paris is superior to all others, by the goodness and number of instruments for observation, and by the size and beauty of the edifice, the work of the architect Perrault. We there admire a quadrant of a surprising extent and exactitude, and at this moment a telescope is making, which will exceed in power any of those hitherto employed by Herschell. According to the new law on instruction, there is a professor's chair to each observatory, as it is a mean of rendering those establishments still more useful.

§ 276. *Museums of Painting, Sculpture, &c.*—Before the revolution, no city of France, not even Paris, had a public collection, where the productions of the fine arts might be freely admired. When the masterpieces were not in the churches, they were the property of some rich individuals, who opened their cabinets but to amateurs. It is certain that the taste for the arts would, under such circumstances, expand less freely; it remains to be determined whether the actual profusion does not produce disgust and indifference.

The central museum is one of the finest monuments erected to the arts. All that is precious in painting and sculpture, has been collected for it. Its description would require volumes. This cannot be attempted here, but an idea may be given of it; for instance of the picture gallery, when it is said that of a thousand pieces exposed to view, there is not one of which, when in a private collection, was not reputed a chef d'oeuvre. The gallery is classed by *schools*. The pictures of the French school,

are the first offered to our attention. The sage Lesueur, the wild LeBrun, and perhaps the first of painters, Poussin, receive all that homage they deserve so well. In the Italian school, the transfiguration of Raphael, the communion of the Dominicans, the Saint Petronille of Guerchin; in fine, the delicious productions of Guido, of Corregio, the prodigious tablets of Paul Veronese, &c. In the Flemish school, the vigorous productions of Jordaens, the valuable *tableaux de chevalet* of Brughel, and of Teniers, the animals of Paul Roter; but above all the animated and dramatic conceptions of Rubens.

§ 277. *The Museum of Antiques.*—The objects it contains are allied to grand recollections. All that was great in sculpture, graces the museum of Paris; for it is not to be doubted, that here is the same Laocoon, described by Pliny; that same Apollo, regarded as a masterpiece in the time of the Cæsars; and that Venus of the Capitol; that Antinous; that Cleopatra, &c. This museum is still to be additionally enriched by antique pieces; amongst others, the Nile, the Tyber, &c. which could not be transported from Rome to Paris, during the war, take their places, as they arrive, successively. To the others is joined the *Venus de Medicis*, and an antique statue newly discovered; the perfections of which equal those of the Apollo of Belvidere: it is a Pallas found at Veletri, in a private garden. If the designs of government are executed, as conceived, the museum of antiques will be extended into the Louvre, and will occupy all the ground floor of that superb edifice, the upper apartments of which are full of our most precious literature. Thus the same spot unites all that is grand in the sciences, letters, and arts. As an accessory may be regarded the valuable foundation denominated, “The Museum of French monuments.” It was at first merely a depot, where were collected and thrown at random, during the revolution, the tombs, statues, and decorations of the churches, castles, and other edifices, which seemed at that time to be condemned to destruction. In a little time it appeared necessary to arrange them methodically,



and to class them chronologically: thus they became so many representatives of anterior ages, to instruct us in the taste, the manners, the usages, the costume of those ages. There, the French may be studied from the epoch when subjugated by the Romans, they sacrificed to strange gods, whose names they could not even spell.

## THEATRES.

§ 278. There are twenty in Paris, of which five are worthy the attention of strangers.—

*The Theatre des Arts, or Opera*, is first in celebrity. The eyes are dazzled with the decorations, and the perfection of the dancing; but the singing does not suit those who delight in melody. There is preserved, by tradition, we may suppose, something that recalls to memory the ancient French song, and nothing can be more irksome to an ear familiar with the fine Italian song. They seem to think that a strong sensation cannot be expressed, but by cries and shrieks; yet it may be said that those faults are lessening insensibly, since the conservatory of music has furnished performers for the theatre. The scholars of this establishment sing and declaim with simplicity and taste: they are neither *psalmodists Francaise*, nor Italian caricaturists. The opera costs government 600,000 francs per annum. The receipts which are, in a common year, 500,000 francs, hardly pay the expence.

§ 279. *The Theatre Francais*—Is truly the national theatre. It merits, above others, the patronage of government. There united are the most perfect actors. There are performed only pieces suited to the taste of the well educated and polished part of the nation. In the spectacle, there is nothing neglected to favor illusion; truth in the scenes of action, in the habits, may be readily remarked; the declamation always just, noble, feeling, lulls away the consciousness of fiction—we conceive ourselves at Athens, Thebes, Rome, or China.

Those two theatres are about to be placed under the inspectorship of the two prefects of the palace.

§ 280. *Picard Theatre*.—The next entitled to some interest is that wherein a young author Picard, has got up pieces of a middle character, between the purest representations, and the grosser farce. There is here a few tolerable actors, but, on the whole, but an imperfect company. It serves as an asylum to those players who are not worthy of the first places in the national theatre.

§ 281. *The Theatre of Comic Opera*.—For some years past, it seems, that at Paris there is less predilection for those pieces, which from the time Sedaine d'Hele &c. counted as many partizans as spectators, and which are still performed in the department.

§ 282. *The Theatre of Vaudeville*.—is not worth mentioning here, but for the novelty of the pieces of an original French invention. These pieces intermixed with couplets of a malignant stamp, amuse for the moment, raise a snarl, but do not create interest. These pieces a *Vaudeville*, which have always for their object the whim of the day, do not succeed out of Paris, as it is there alone the *point* can be given them, or understood.

§ 283. *The Opera Buffa*.—Is for Italian pieces.

#### LITERARY SOCIETIES.

§ 284. *The National Institute*.—Amongst the various foundations for the aid of the arts, and of literature, this is the most important. The government protects it with a distinguished predilection. Each member has a pension from the public treasury. The allowance for the aged and assiduous members is from 1,500 to 1,600 francs.

The establishment of this institute was one of the last operations of the national convention. It seemed to redeem many of its errors, by this useful institution. It was indeed a noble idea, to divide into three grand classes, the entire system of human knowledge, to divide those classes into sections, and

to nominate for each one a determinate number of men, to be employed successfully, on these sciences respectively. It may be judged how imposing such a corps would be, each being celebrated in his peculiar sphere.

Objections have been started. It has been said, What is the use of mingling geometry with poetry, physic with music, painting with metaphysics? The reply is, Each class is detached in respect to its own performances. It is the discoveries only, the brilliant results, that are brought before the institute in general session; for who can apprehend the whole chain which seems to bind the parts of human knowledge? It is not difficult to perceive the benefit accruing from this community of intelligence. The antiquary has frequently profited by the observations of the naturalist; the naturalist by an explication given by an erudite, of an ancient author; the painter by that of the astronomer; the musician, by an analysis of our agreeable sensations, made by the ideologist. It appears necessary to give here a detail of the different sections and classes of the institute.

**FIRST CLASS. *The Physical and Mathematical Sciences.*—**

The sections are—

1. Mathematics.
2. Mechanic Arts.
3. Astronomy.
4. Experimental Physics.
5. Chemistry.
6. Natural History and Mineralogy.
7. Botany and vegetable Physics.
8. Anatomy and Zoology.
9. Medicine and Surgery.
10. Rural Economy, and the Veterinary Art.

**SECOND CLASS. *The Moral and Political Sciences.*—The sections are—**

1. Analysis of Sensations and Ideas.
2. Morals.

3. Social Science and Legislation.
4. Political Economy.
5. History.
6. Geography.

**THIRD CLASS.** *Literature and the Fine Arts.*—The sections are—

1. Grammar.
2. Ancient Languages.
3. Poetry.
4. Antiquities.
5. Painting.
6. Sculpture.
7. Architecture.
8. Music and Declamation.

The three classes being composed of twenty-four sections, the institute contains 144 members, without counting an equal number of associates dispersed throughout the departments, and without counting twenty-four foreign associates, eight for each class.

*General Observations.*—In the actual state of modern society, that people who cultivate the arts and sciences with the most success, acquire a great superiority over others, or rather hold them dependant. The learned by their discoveries and works, give eclat to national character; the artists render the opulent among foreign nations, tributary to their country, however scanty may be their enjoyments. Such was certainly the happy condition of France before the revolution. She reigned over Europe in her fashions, her arts, and her literature. Perhaps the supremacy then claimed, is not less real at this time, notwithstanding the troubles of the revolution: it does not appear difficult to demonstrate this.

The enthusiasm of man is well known, for every thing that has an appearance of grandeur, and this illusion is still augmented by force of fascination. The high opinion held of the French by foreigners, is the cause of the attention which they

attract, as the most powerful, most magnificent, most glorious, and most polished, in a degree, perhaps, above reality. Their customs are found to be more dignified and magnanimous, their manners more amiable, their intercourse more agreeable, their language more elegant. For these reasons it is, that other nations are desirous of imitating them, to acquire their usages, fashions and dress; to copy their address, walk and speech. This preference, this universal dominion over the mind, we owe, as hath been observed, only to the culture of the sciences, the fine arts, and the genius of our language. The French language has in it all that is needful to render it admirable; its essential character is great regularity, which facilitates the acquirement of it. In studying a foreign language, the first books that attract attention, are pieces of eloquence, and poetry, as the Spanish or Italian, for example, which occasion much difficulty by their unnatural constructions and their constrained inversions, the Italian poetry in particular, by all kinds of licence, making it almost a distinct language; with the French, on the contrary, there is but little difference between poetry and prose. Those who comprehend Pascal, will comprehend the odes of Rousseau.

Our poets use inversions with moderation, and the limits of their usage have been strictly defined, as the language has been purified. It admits nothing vague and indeterminate; it is fixed, finished, accomplished, in basis and form, as much as any language can be, and a people who pass for being so volatile, exhibit herein a constancy, an inflexibility, by every possible proof. It is no little matter that would justify a writer in composing contrary to the rules, and straining the natural and national style. The most celebrated author would not transgress in this way with impunity. When expressions new and unusual are required, they are rigidly examined before admission. This regularity is honorable to the French nation, and proves that it possessed much excellent genius at the time when the language was formed. It proves that a

correct conception, a mature reason, a certain feeling of order and suitableness, is inherent in the national character. This national character is exhibited in the literature of the country. What country can vaunt itself of so many works, generally esteemed by persons of the first rank, wherever there is a civilized society—in a word, that has afforded so many agreeable sensations among the human family? It is in good theatrical pieces, that this taste is particularly manifested; their plan is simple, the developement is easy, the stile is pure, always on a level with the subject, and of uniform elegance. Racine, Voltaire, Rousseau, will always find more readers than Shakspeare, Milton, and Klopstock.

To avoid error, we should not estimate instruction merely by a few great men, who appear as meteors, but by the extent of useful and agreeable knowledge through the different ranks in society. Though possessing a Copernicus, a Kepler, or a Leibnitz, the great body of the people may be very stupid and uncultivated, but the people that possess a Rochefoucauld, Deshoulières, Sevigné, Maintenon, is of course a nation polite and well educated. This national taste is recognized also by another sign; it is when they are perceived to cultivate the various branches of literature and science, and to leave no vacancy in the circle of knowledge. If these advantages are no longer exclusively of France, as in the latter part of the past century; if the men of letters, the men of talents, are at length found in other countries, it is not from the same taste of elegant literature. It may be said, that in the department of eloquence, the French have some master pieces; that they have highly improved the style of history, wherein the Italians had preceded them, and in which the English have lately rivalled them: that the French presiding over the scene, and over all the libraries of the world, open the passages to the highest attainments: that the members of the academies of Paris, and of the national institute, which has succeeded them, offer all that clearness, that method, that elegant precision, of

which the language is capable, and which in displaying the most complicated ideas, render them easy of perception, and shed light into the most abstract subject. In fact, the knowledge brought from abroad by the French, always gains something by passing through their hands; it may be said that they draw raw materials from other nations to return them manufactured. Nor do the French abandon to their neighbours the profound and profitable culture of serious and useful knowledge; experience proves how much the *bel-esprit* spoils the habitudes of a people, in depriving men of that internal firmness of sentiment, which is the aliment of liberty. The man under the dominion of *bel-esprit*, has more fantasies than others; he weds, he embraces a chimera; his thoughts range too far from objects of public welfare, and a factitious appetite usurps the place of the true.

France has produced great men, very great men, and produces more than ever, since the government encourages every kind of talent, and that the French no longer offer to men of letters, and to artists, as the price of their productions, the usual fashionable applauses, the fortuitous fruits of vain caprice.

Drawing, painting, sculpture, and music, progress to perfection; so their productions are more beautiful, as they obtain a more extreme degree of excellence. Without doubt, in the age of Louis the 14th, letters and the arts shone out with an extraordinary brilliancy, yet we hope to exhibit again the semblance of a period so glorious for France. The existing circumstances are not less favorable. At that time, as at present, France was emerging from the horrors of civil warfare, and her troubles had plunged the nation into a state of barbarism, from whence it was not to be redeemed but by painful efforts. Our civil discords, and foreign wars, have happily not been of sufficiently long duration, to extinguish the flame of the arts. Perhaps it required such a crisis to put us in the

proper track, from which we had strangely diverged. This thought requires some developement.—

Though the remains of antiquity, in the ages of Le Brun, Perrault, Racine, Boileau, did not receive, on the part of the artists, all the attention they merited; though those master-pieces transmitted to us, were neither valued nor imitated sufficiently, yet it must be acknowledged, that the productions of that period, in arts and literature, have a character of grandeur, distinguishing that period from all others. It is not the truly fine, but the likeness of it. The grand style is changed, it fluctuates with the manners of the people. They ceased under the Regent, and under Louis the 15th, to be grave and severe; they assumed a character of frivolity, which remained until the revolution. A puerile luxury was introduced into the common orders of society. The arts declined; all was grimace and affectation. Some literary characters, and Voltaire above all, were secured against the evil taste of the time, but all the artists paid an ample tribute. There is not, perhaps, a picture, among those commended at that time, that can arrest the attention of a connoisseur for a moment.

Some years before the revolution, two or three artists began to think that the arts had taken a wrong direction; the lessons and example of *David* had collected some young scholars to study the antique. The revolution gave a general change to the public taste. The furniture, the dresses, all was of the antique style; and though there was much to repent of in the cruel political movements of the time, it was otherwise with those of the artists.

Those productions in which they have taken the ancients for models, enjoy general estimation, and will continue to enjoy it, as long as the French retain a correct taste for the arts. On the other hand, the sciences were not stationary during the revolution, the new chemistry, for example, made sensible progress; it was daily enriched with important discoveries. The mathe-



matics, natural history, and that ancient science, designated by the new term *Ideologie*—all these have progressed, amidst the civil troubles. It appears, that it is in such troubles that men's souls, acquire new vigor. It appears that all the great master pieces of the arts were produced after a great political crisis. Virgil, when writing the *Encid*, was recalled to Rome, whilst the Tyber was yet smoking with the blood of Roman citizens. Corneille was inditing Cinna, and the Horatii in the middle of a city, two thirds of whose inhabitants had participated in the cruel follies of the *fronde*.

The basis of all instruction, according to the new system, ought to be the study of Latin and the mathematics, geography, and natural history, chemistry, history, jurisprudence, and the art of thinking and reasoning, are only secondary.

The consecutive order of study was fixed at the lycees, by the following consular decree of the year 11—

Art. 1. The Latin language, and the mathematics, shall be essentials of education in the *Lycees*.

2. There shall be six classes for the study of the Latin language. They shall be distributed and denominated, as follows—Sixth, fifth, fourth, third, second, first.

3. The pupils of ordinary application and talent, make two classes each year, that they may in three years finish their Latin course. In order thereto, there are two examinations in the year. Those pupils who are found deficient, do not ascend to the higher class. The pupil at entrance shall be examined, and placed in class according to competency. If he is found to be more advanced than those of the sixth class, a proportionate rate of time is dispensed with. In the absence of the inspectors, examinations shall be made by the censor of studies, and the professor of the class, for which the pupil offers himself.

4. Each professor shall give two lessons daily, morning and evening.

5. In the sixth class, the professor will teach numeration, besides Latin. In the fifth class, the Latin professor teaches the

four rules. In the fourth class, lessons in geography are given, besides the Latin lessons. In the third, the same Latin professor continues his lessons in geography, besides Latin. In the second, the study of geography is continued, and of history, to the foundation of the French empire. They learn mythology, and the faith of different ages of the world. In the first class is completed the study of history and geography, by the study of that of France.

6. In the four last Latin classes, the memory of the pupil is exercised, by learning and reciting with care, the most beautiful passages that have been explained, and similar passages from the best French authors. In all those classes, composition is taught in dictating exercises for translation; French into Latin, and Latin into French.

7. There shall be a professor of belles-lettres, Latin and French, who will lecture two classes daily. Each class shall subsist a year, so that in two years the course may be terminated.

There shall be for mathematics, six classes; as for Latin, under three professors, each having two lectures daily, so that the mathematical course may be finished in three years. No pupil can be entered in the mathematical class, till he has passed the fifth.

9. In the same class of mathematics, besides the mathematical lesson, the professor gives the first principles of natural history. In the fifth, he teaches the elements of the sphere. In the fourth, the same professor explains the same phenomena of physics. In the third, the professor explains the elements of astronomy. In the second, the principles of chemistry are taught. In the first, the same professor gives the rudiments of mineralogy, with reference to their usage.

10. There shall be a professor of transcendant mathematics. He shall give two lectures daily, for two years. In the first class, he will teach the application of the differential and integral calculus, to geometry and curves. In the second, the

application of the differential calculus, to mechanics, and the theory of fluids. They show, in the first, the application of geometry to the laying down of plans and geographical charts. In the second class, they teach the higher principles of physics, generally, especially electricity and optics.

11. There shall be named two commissions, one for Latin, the other for mathematics. They draw up instructions, determining, in a precise manner, the subjects to be taught in each class, and the course to be followed. They trace, with care, the order to be established, between the courses which go on simultaneously, and the duration of each course. They attend to the reprinting of the classics, and the disposition of books. Professors shall not substitute other books than those prescribed by the commissions.

12. There shall be in each Lyceum, a writing master, a drawing master, and a dancing master.

13. The pupils assemble in the same hall, at a stated hour, for drawing and writing, but no pupil shall commence drawing till he has made a due proficiency in writing.

14. The masters in drawing, writing, and dancing, shall be paid by the Lyceum. There may be music masters, but they must be paid by the parents of the pupil.

15. Every pupil who obtains a prize, shall receive lessons in music, gratuitously.

16. Whenever there is more than two hundred pupils or pensioners, the professors shall be augmented; in the rate of two professors for fifty scholars, up to one hundred and fifty. These two professors shall be adjunct to those of the most numerous classes.

17. When a Lyceum shall have more than four hundred pupils, it shall be divided into two divisions, each one having eight professors, and organized as above.

18. There shall be in each college a quarter-master or more, for thirty scholars.

19. A drill officer shall be charged with the instruction in

the manual exercise, of all above twelve years; he shall be always in readiness to conduct the march of the pupils to and from their various duties.

20. The professors shall be divided, for better regulation, into three orders. The professor of belles-lettres, and of transcendental mathematics, shall be comprized in the first order. The professors of Latin and mathematics of the first, second, third, and fourth classes, shall be comprized in the second order. Those of the fifth and sixth classes, shall be comprized in the third order.

21. The pupils shall be divided, for police, into companies of twenty-five. There shall be in each company a sergeant and four corporals, to be chosen from amongst the most distinguished pupils. A sergeant-major, for all those companies, shall be chosen from among those who unite the advantage of age and figure, of knowledge, and correct conduct. This sergeant-major supplies the place of the drill officer when absent.

22. When the pupils go forth in a body, they shall have a censor at their head, a quarter-master, and a drill officer.

23. All that relates to their repasts, recreations, promenades, or sleep, shall be done by company.

24. In the Lycées there shall be two divisions; each division shall have separate companies. The division, No. 1, always takes the right.

25. The punishments inflicted on the pupils shall be—The prison, the table of penitence, and arrests. Arrest consists in being placed, during recreation, at the extremity of the court, without power of moving from a given space.

26. The quarter-master, drill officer, professors, and censors, may condemn to penitence and arrests. Prisonment can be inflicted only by the provost, and for one day only at a time. If the fault of the pupil requires imprisonment at night, the provost shall give an account thereof to the minister of the interior.

20. There shall be in each Lyceum, a library of 1500 volumes; all the libraries shall be formed of the same works; no particular work to be admitted without the approbation of the minister of the interior. A pupil shall be appointed librarian, with two adjuncts. The books may be lent to the pupils, that they may read for amusement, at recreation, holy days, and vacations, and whatever books they demand. The provost shall be vigilant, that those books shall not be lost, nor abused.

28. There shall be an almoner, in each Lyceum.

In continuation, it may be remarked, that in the new organization of the public instruction, the study of the Greek language has been completely forgotten. There is no professor for this noble language—the mother of the Latin, the fountain of the scientific and technical terms. If this omission is not promptly repaired, foreigners will load us with reproaches, and even injurious sarcasms.

*New Organization of the Institute, by the Consular Authority.*

Art. I. The national institute, actually divided into three classes, shall consist of four, viz.

First class—Class of physical sciences and mathematics.

Second class—Class of languages and French literature.

Third class—Class of history and ancient literature.

Fourth class—Class of the fine arts.

The actual and honorary foreign members of the institute, are distributed in those four classes. A commission of five members of the institute, named by the first consul, shall arrange this order, which shall be presented to the government for ratification.

II. The first class shall be formed of the ten sections, at this time composing the first class of the institute, and of a new section of geography and navigation, and of eight foreign associates.

The first class shall name, with the approbation of the first consul, two perpetual secretaries, one for the mathematical

sciences, the other for the physical. The perpetual secretaries are members of the class, but make no part of a section.

The first class may elect six of its members, from among the other classes of the institute. It may nominate one hundred correspondents from among the learned, at home or abroad.

III. The second class shall be composed of forty members. It is particularly charged with the compilation of the dictionary of the French language. It will make, under that intent, the examination of works of importance in literature, history, and science. The collection of critical observations shall be published at least four times a year. It shall appoint from its body a perpetual secretary, approved by the first consul, who shall still continue one of the forty members who compose it. They may elect, to the number of twelve members, from among the other classes of the institute.

IV. The third class shall be composed of forty members, and of eight associated foreigners. The learned languages, antiquities and monuments, history, and the moral and political sciences connected therewith, shall be the subjects of their attention. They shall endeavor to furnish translations of the Latin, Greek, and Oriental languages.

They shall attend to the forming of diplomatic collections. They will nominate for the approbation of the first consul, from their own body, a perpetual secretary, one of the forty members, of whom the class is composed. They may elect nine of their members, from among those of the other classes of the institute. They may nominate sixty correspondents, foreign and domestic.

V. The fourth class shall be composed of twenty eight members, and of eight foreign associates. They shall be divided into sections, designated and composed as follows—

|              |   |   |             |
|--------------|---|---|-------------|
| Painting     | . | . | 10 members. |
| Sculpture    | . | . | 6 do.       |
| Architecture | . | . | 6 do.       |

Engraving . . . . . 3 members.

Music (composition) . . . . . 3 do.

They shall name, under the approbation of the first consul, a perpetual secretary, who shall be member of the class, but not of any section. They may elect six of their members from among the other classes of the institute. They may name thirty-six correspondents, domestic and foreign.

VI. The foreign members associated, shall have a deliberative voice, in matters relating to science, literature and arts. Those actually associated with the institute, shall make part of the 196 correspondents, attached to the class of sciences, belles-lettres, and fine arts. Correspondents shall not take the title of members of the institute. They shall lose that of correspondent, when domiciliated at Paris.

VII. The nominations to vacant places shall be made by each of the classes wherein vacancies happen: those elected shall be confirmed by the first consul.

VIII. The members of the four classes shall have the right reciprocally, to attend at the sittings of each, and to lecture when they have made the request.

Four times a year they will unite *en corps de institute*, to render an account of their labours. They shall elect, in common, the librarian and sub-librarian of the institute, as well as other agents of the institute, generally.

Each class shall present, for the approbation of government, the statutes and regulations of its interior police.

IX. Each class shall hold a public sitting every year, at which the three others may attend.

X. The institute shall receive annually, from the public treasury, 1500 francs for each of its domestic members; six thousand francs for each of the perpetual secretaries; and for expences a sum which shall be determined, every year, on the demand of the institute, and comprised in the budget of the minister of the interior.

XI. There shall be for the institute an administrative com-

mission, comprised of five members; two of the first class, and one of each of the other three, named by the class respectively. This commission shall regulate, in the general session prescribed by the 9th article, all that is relative to administration, the general expences of the institute, the division of the funds among the four classes. Each class shall regulate the expenditure of its proper funds, as well as all that relates to the printing and publishing of memoirs.

XII. The class shall every year distribute prizes, of which the number and value shall be regulated as follows: the first class a prize of 3000 francs; the second and third, each a prize of 1500 francs; the fourth class, the grand prizes for painting, sculpture, architecture, and musical composition. Those who have borne one of these grand prizes, shall be sent to Rome, and maintained at the expence of the government.

### MONUMENTS, PUBLIC EDIFICES, &c.

§ 286. France offers some curious monuments to the observation of the attentive voyager. They are found of a date antecedent to the Roman conquests: such are the vertical piles of stone, and the Celtic money. Other monuments, as those of Marseilles, and many inscriptions, are of the Greeks, who colonized in the south of France. Others, in considerable number, are subsequent to the Roman conquests.

Some of them, as the temple of Montmorillon, many divinites, and Gaulic inscriptions, belong to the first ages of the conquest, others to times less recent. Among these are mentioned, the remains of architecture, left by the Romans in Gaul, and still existing, chiefly, in the south of France. They may sustain a comparison with many of those monuments of Greece and Rome, which enjoy great reputation. Besides these, monuments purely French, are met with, as those of the original race: the monuments of the middle ages of all kinds, and modern edifices and monuments, which attest the power of the



nation, and the talents of her artists. We shall endeavour to notice the principal.—

In the church of *Notre Dame*, is found the sword of Charlemagne, his belt, and his evangile, in golden letters. He had been interred in this church; his tomb is in the Augustin museum at Paris; it is an ancient Sarcophagus, on which is represented the bearing off of Proserpine: the fine antique columns which belong to this tomb, are at the museum of the arts.

In the canton of Freitzheim, is an old castle, fallen to ruins, from which the dukes of Juliers draw their origin: the remains are seen of a subterranean passage, under the Roer, which runs at the foot of the rock on which the castle is erected. It has an outlet in the lands of Montjoye; and before the invention of fire arms, this castle was very formidable, and, in some measure, impregnable.

In *Cologne*, the cabinet of M. Hupsch should be visited. The pavement is of basalt. Here are preserved the original letters of Furence.

In *Metz*, the library is rich in ancient typography; it being the womb of printing. In the citadel is the tomb of *Brunus Germanicus*. There is seen the palace *De Studion*, at present of the prefect. The palace *Ferte*, where are the ruins of the cathedral and towers.

*Trenes* possesses some remains of antiquity;—among others, the pillars and columns of the bridge, on the Moselle, the vestiges of the towers of an amphitheatre; but the Huns, Franks, and Normans have destroyed its other antique monuments. There are many churches, the most remarkable of which is the Cathedral, built of stones so large that the people believe that the Devil was constrained to carry them.

*Arras*—The tower of the Cathedral is 466 feet in height; it is admirable for its lightness and delicacy of workmanship.

*Brussels*—The town house, and its Gothic tower, 364 feet high; situated on the *Grand Place*, surrounded with elegant buildings; also the celebrated collegeground of Saint Gudule,

which contains curious tombs; the magnificent portal of the Abbey of Coudenberg.

The place St. Michel formed of edifices, with columns and pilasters, is above all, remarkable for the beauty and regularity of its buildings. The style of building is peculiar, being a mixture of Gothic and Moorish, which surprises more by its hardness of aspect, the grandeur, and the lightness of its appearance, than by the beauty of its forms, and the greatness of its proportions. This kind of architecture, was derived from the Spaniards, who had it themselves from the Moors, who had introduced it into Spain. The park is surrounded with fine buildings, and deserves to be seen.

Arras possesses a most excellent library, formed of the wreck of that of Saint Vaast, appertaining to the order of the Benedictines. In this library are seen the vases, inscriptions, and monuments found at different times in the Artois, and preserved by the academy of Arras.

The church of St. Peter, at Lisle, contains remarkable monuments: it is in ruins. At Lisle is seen a part of the ancient palace of the Counts of Flanders. The military hospital, the citadel, the door of the sick, the exchange magazine, the hospital newly built, and the exhibition hall, merit the attention of the traveller.

The citadel of Valenciennes, constructed by Vauban, is all that can be thought curious in this city.

The quay of Dunkirk, its grand street, its ropewalk, the sailors' magazine, the charming pleasure houses in the vicinage, are worthy of attention.

§ 287. Versailles having been since the time of Louis the 14th, the habitual residence of the kings of France, they have collected there all that genius and art could produce, the most surprising. Few cities of Europe can in this way be compared to it; the multiplicity of edifices, which adorn it; the charming walks which surround it; its proximity to the capital—all concur to render it an agreeable abode. Its former

population was 80,000 souls, but, by the revolution, it has been brought to 30,000.

*Versailles* was formerly but a poor village, which owed all its lustre to the magnificence of Louis 14th. Louis the 13th, in 1627, began to build a small habitation; which was merely a hunting rendezvous. Bassompierre, termed it, with reason, The pitiful chateau of Versailles. Louis the 14th, found the position agreeable; he called together the most celebrated artists, and, in a little time, he converted the village into a city, and the chateau to an immense palace, imitating, with taste and discernment, all that art can conjoin with magnificence, to produce the most seducing effect. The park and the buildings, began in 1678, and were finished in 1680. To the joint talents of three celebrated men, Jules Mansard, in architecture, Charles Lebrun, in painting and the arts depending on it, and Andre le Notre, for the distribution and decoration of the gardens—to these are owing the innumerable beauties found in Versailles and Trianon. Colbert was at that time minister.

The facade of the chateau, fronting Paris, is composed of several pavillions, constructed at different times, and does not assimilate to that fronting the gardens, which is regular, and of noble architecture. The interior distribution, the riches and magnificence of the ornaments which adorn the apartments, the beauty of the ceilings, attest the genius of the artists of all sorts, that distinguished the reign of Louis the 14th. Many pictures of the different schools, and the greatest masters, which decorate this palace, have been taken away, by order of government, and are replaced by a large collection from the French school, forming a museum of painting of that class.

There is a very curious cabinet of natural history, containing specimens not found in that of the capital. There is seen a collection of shells, very rare, and of great beauty, and of crystallizations, singular in their kind.

In the interior of the chateau, the objects worthy of admi-

ration are—the grand gallery and the chapel. The architecture and painting of the first are by Le Brun: Europe presents nothing finer, nothing comparable to the distribution and taste reigning there. The gallery is seventy-three metres in length, nine metres, thirty centimetres broad, and twelve high. It is lighted up by seventeen grand windows, which are reflected on the opposite side; the rear being faced with mirrors, reflects a view of the gardens and pieces of waters: it is wholly from the genius of Le Brun. The ceiling is ornamented with tablets, representing the principal actions of Louis the 14th.

The chapel is the last work of Mansard: it was begun in 1699, and finished in 1710. The interior is decorated in the Corinthian order. The vault is supported by sixteen fluted columns, with a balustrade of brass, gilt. The sculptures, bas-reliefs, and paintings, are of the greatest beauty, and executed by the first artists. The gardens are of immense extent, a design noble and regular, embellished by numerous basons and pieces of water; in the centre of which are placed excellent figures, cast in lead, representing divers subjects in mythology, throwing water to a great height, and in various forms. Marble vases and statues, copied from the first Italian pieces, decorate the gardens—each step is marked with an object of wonder.

The baths of Apollo are the chief works of Girardon. The principal groupe represents this god, entertained by Thetis, surrounded by nymphs, solicitous to serve him. The two groupes of horses held by Tritons, deserve the attention of the curious: they are done by Goerin and Marsy. These baths are placed in a grotto, the entrance of which represents the palace of Thetis. This grotto is cut in a mass of rock, of picturesque form; the fine Apollo groupe stands at the entrance, and on the sides are the horses in his car, represented drinking. A great quantity of water gives life to the picture, and falls in cascades into a large bason, decorated in a rustic way. The surface of the rock is of excellent composition, and is covered

with various exotics. The bosquet of the colonade is remarkable for its decoration in circular peristyle, composed of thirty-two Ionic columns, of a violet fracture, Languedoc marble, and blue turquin; and by the excellent groupe of Girardon, representing the rape of Proserpine by Pluto. The ingenious plan of the architecture is by Mansard; the execution by La Pierre. The dome is so named, on account of two cabinets therein: they are sustained by eight columns of Givet marble; enriched with bas-relief, in bronze. The Amphitrite of Angier, and the Galatea of Tubi, is seen there.

The Orangerie, constructed in 1685, from the designs of Mansard, is a superb monument of architecture; it is filled with a considerable number of orange trees, many of which are of the reign of Francis the First.

On one side of the park is the chateau Trianon, constructed from the designs of Mansard, and executed by Robert de Cotte: it is of the most elegant eastern style of construction; two wings terminated by two pavillions, are united by a peristyle, composed of twenty-two columns of the Ionic order, fourteen of which are of real marble, and eight of green campan: the building which has only a ground floor, is of 126 feet front. Between the windows are pilasters, of the same sort, and in the same arrangement. The roof *a la Romaine*, is terminated by balustrades, ornamented with vases, and groups of cupids. The gardens are charming; they were replanted in 1777, after the designs of Leroy the architect. All the artists employed about Versailles, have equally exerted their talents in decorating Trianon. The *petite Trianon*, a pleasure house, situated at one of the extremities of the park of the grand Trianon, consists of a Roman pavillion, about twenty-four metres each front, of a ground floor, and two stories over it, decorated according to the Corinthian order. The interior is ornamented in a gallant style. Louis the 15th had it constructed after the design of Gabriel.

The gardens are delicious; they are distinguished into French and English gardens; the last is very different from most of those we have seen, and presents to the view only costly vagaries. Here we perceive a temple of love, of the Corinthian order, the wainscotting of which is decorated with squares and compartments: a Belvidere, of an octagon form, is opened with four doors; on the right rises a slope, surmounted by a clump of trees; at a distance beyond is an artificial rock, from whose cavities start some bubbling rills of water, which fall into a lake. The English garden is terminated by a charming little hamlet, after the designs of Mique.

The other edifices of Versailles, worthy of admiration are the great and little stables, the manufactory of arms, situated in the locality formerly denominated the Grand-Commun. This manufacture is become, by the favour of government, and the rare talents of the artist who directs it, to such perfection, as assures to France a superiority in the article of arms, over the other nations of Europe.

The library is very rich and very precious, and contains 40,000 volumes.

Versailles had no waters: they have been compelled to introduce those of the Seine, by means of the celebrated machine invented by the Chevalier de Ville. The water, elevated by that machine, is received into an aqueduct, which conveys it into reservoirs constructed in the park *De Marly*, from whence it is distributed to inhabitants, gardens, &c. This astonishing work was constructed in 1682; at this moment it is so much impaired, that it is expected soon to stop. A new machine is proposed to be erected close to the old one. The plan is more complicated, and is intended to produce a greater effect.

§ 238. The town of *St. Cloud* is two leagues west of Paris; it was founded by Clodoald, a grandson of Clovis. It is remarkable for a magnificent chateau, rebuilt almost entirely

by Louis the 16th. The grandeur of the park, its amphitheatrical appearance, and the beauty of its waters, render it a delicious place.

§ 289. *St. Germain*, built in brick, by Francis 1st, completed by Henry 2d, the superb terrace affording a fine view, the vast forest, the fine gardens of the Hotel de Noailles, full of precious exotics, the academy of Madam Campan, the neatness and cleanliness of the town—all render it worthy of the curiosity of strangers.

§ 290. *Fontainebleau* was begun in the reign of Louis the 7th. Francis 1st decorated that part now existing, in 1540, by Francis Primaticcio, a celebrated Italian painter and architect. Under different reigns it received additions: these different constructions have destroyed the regularity of its appearance; but it is not the least extensive, grand and commodious appertaining to France. There are 900 chambers distributed into four divisions, which form four distinct buildings, with each one a garden annexed.

Among the galleries we notice that of the *Stags*, ranging along the orangery; it is a hundred metres long, and filled with paintings representing, with astonishing fidelity, the hunting matches of Henry 4th, the noblest character among the kings of France; with the forests and plats of the environs. It was at the end of this gallery, that Christiana of Sweden, had immolated her groom Monaldechi. This palace, used by the kings of France, during the hunting season, has been much degraded during the revolution. The forest is nearly circular, and contains 26,424 arpens.

§ 291. *The Chateau of the Louvre* was begun in the reign of Francis 1st, in the year 1528, and continued by his son, Henry 2d, after the designs of Pierre Lescot; the sculpture was executed by Jean Gougeon. Charles 9th, Henry 4th, and Louis 16th, in succession, had the grand gallery executed, leading to the palace of the Tuilleries. It is 450 metres long, and 10 wide. It was finished by Louis the 14th, who, in

1661, caused the New Louvre to be constructed by Louis Leveau and Francis d'Orbay, architects, who executed the superb facade, on the side of St. Germain l'Auxerrois, after the designs of Claude Perrault, whom this master piece has immortalized. The facade of this Corinthian colonnade is 174 metres long. It is divided into two peristyles, and three projections. The principal door is in the centre of the middle projection, which is decorated with eight columns, coupled and crowned with a front, the *simaise* of which is of two stones, each of them eighteen metres long, and two broad. The other two projections are ornamented with six pilasters, and two columns, of the same order; the whole terminated by a balustrade, the pedestals of which serve to place trophies, intermingled with vases.

The entire plan of the Louvre is a perfect square, surrounded by four buildings, decorated with the orders of architecture, one on another, the pavilions of which are enriched with columns.

In the centre is a square court, with a magnificent entrance on each side, ornamented with columns. The interior is also ornamented with choice pieces of sculpture, executed by Serazin, Jean Gougeon, Germaine, Pilon, Houdon, Bouchardon, Bridan, Couston, Clodion, and others of celebrity. This edifice so long neglected, is about to be restored, the government intending to appropriate it to the use of the arts. It already contains the National Institute, which replaces all the ancient academies; the museum of sculpture and painting. The library is also to be placed there, by an *arrete*.

Above the pavillon, on the place *De Louvre*, is erected a telegraph. This curious instrument was erected in 1798, by the Abbe Chapi, and serves to support an intercourse between Paris, and the most distant parts of the nation. The persons directing the intermediate signals, being ignorant of what they transmit.

§ 292. The palace of the *Luxembourg*, occupied at pre-



sent by the Conservative Senate, is, after that of the Louvre, the largest in Paris. It is peculiarly distinguished by its masculine character, by its regularity and beauty of proportions. Mary-~~de~~ Medicis caused it to be built, in 1615, after the design of Jaques de Brosse; the architecture is esteemed. The plan is of six grand pavillons: three on the front and three on the garden. The pavillons communicate with each other, by galleries and apartments, with a square court in the centre. The Tuscan order is preserved in the lower story. The Doric, and Ionic, are above. The whole facade is ornamented with pilasters coupled, and tablets. The directory who inhabited it, repaired it completely. The garden is about to be laid off anew, on the plan of M. Chalgrin.

§ 293. The palace of the *Tuilleries* was commenced, in 1564, by the queen Catherine de Medicis, after the designs of Phillibert de Lorme, continued by Henry the 4th, and accomplished by Louis the 14th, after the plans of Louis Lavau and Dorbay, architects. The facade is composed of five pavillons, and four lodgements, on the same line. The architecture of the centre pavillon is of the Ionic and Corinthian orders. Under Louis the 14th, there were added the Composite and an attic. The columns on the side of the carrouzel are in brown and red marble: the same disposition is preserved on the garden side. The peristyle in the centre pavillon is very fine, and conducts to a staircase, leading to the apartments. The interior of the palace is decorated with superb pieces of painting and sculpture, by the first French and Italian artists. Since it was inhabited by the first consul, it has received many embellishments, which render it the most elegant and rich palace in Europe. The palisading is remarkable for its simplicity and richness of its gilding. It is divided by pedestals, which support the famous antique horses, brought from Venice. The *consoles* which range along a part of the building, on the side of the court, and of that of the garden, are ornamented with the busts of illustrious men. The garden, planted by

Lenotre, is enriched with statues, groupes, vases, and bronzes of the greatest masters. It is ornamented with four basons of water, replenished from spouts, three of which are seen from the terrace of the palace, the fourth at the end of the avenue, conducting to the place *De la Concorde*.

§ 294. *The Palais Royal*—began in 1629, by the orders of Cardinal Richelieu, after the designs of Mercier; after the death of the Cardinal, it went to Louis the 13th. Louis the 14th ceded the profit rents to Monsieur, his only brother. and the property of it to the young duke de Chartres.

The space, in front of the palace, facilitates the development and view of this noble architecture. The Doric order prevails throughout the extent of the exterior facade, forming a terrace in front of the court, into which there is entrance by three doors: the two wings are ornamented with two orders, one Doric, on the lower floor, surmounted with the Ionic, on the first story, and crowned with triangular fronts, the tympana of which are ornamented with cyphers and figures. The pavilion, at the bottom of the first court, is intersected by three arcades; the lower part of which forms a vestibule, decorated with columns conducting to a grand staircase, remarkable for its form and fine proportions. The palace contained, formerly, a collection of the best pictures. That collection, which cost the regent such immense sums, was sent to England, and sold by Philippe de Orleans, alias Egalite. The garden, which is in front of the building, is now to be laid off anew, and kept with care. It is the rendezvous of all foreigners. The surrounding buildings are of a regular architecture and very noble aspect; they are in part carried over a vaulted gallery, of 180 arcades, which gives light and entrance into as many shops, affording all kinds of luxury and entertainment.

§ 295. *The Palace of Justice*.—The origin of this edifice is coeval with the monarchy, nor is the era of its foundation known. It has been the residence of many kings. Two incendiaries, the first in 1618, the second in 1776, have destroyed

the principal part of the building, which was reconstructed by Louis 16th, with much magnificence, after the designs of Desmaisons. The noble, grand staircase is much admired, and the facade, which is in a fine style. The palisade is rich and elegant, yet not exempt from criticism, on account of the distribution of its ornaments. The entrance would be imposing, if the buildings which form the main passage, had more unity of character. Inside, we notice the great hall, reconstructed by Jacques Desbrosses, after the fire of 1618. There is nothing more vast, more majestic, than this hall, which is unique in France. Underneath are the vaults in which criminals are held.

§ 296. *The Sainte Chapelle*—Contiguous to the palace, is a Gothic monument, from the piety of St. Louis, and built by Pierre de Montreau. It is remarkable for the firmness of its vaults, and its glass, which has been much damaged, as well as some pieces of sculpture, during the tempest of the revolution.

§ 297. *The Palace of Bourbon*—(now of the legislative corps) was raised in 1772, after the designs of Girardon, continued after those of Lassurance, and was finished by Jacques Gabriel. This edifice is constructed on the Italian plan, having only a ground floor; every thing around it announces magnificence. The principal entrance is a triumphal arch, of Corinthian arrangement, with galleries and detached columns, supporting arches, ornamented with caissons, between two pavillions, giving this entrance a striking appearance. The colonnade on the right and left of the court, forming a peristyle for entrance, yields in no respect to the finest palaces of Italy: the side fronting the river, of a new construction, is remarkable only for its bad taste.

§ 298. The chief place of the order of Templars, was called *The Temple*. The grand tower, flanked with four turrets, was built by father Hubert, in 1200. As a monument, it presents nothing remarkable. It is merely used as a place of detention.

§ 299. *The Church of Notre Dame*—Is the first church that was built at Paris. It was placed on the ruins of a temple erected to Isis or Vulcan, and to Castor and Pollux, by the traders of Paris, under the reign of Tiberius, as is supposed, from the bas-reliefs discovered in the foundation, deposited in the museum of French monuments. This church was constructed under the emperor Valentinien, about the year 365. Clovis, and Robert the pious, repaired it; Philip Augustus finished it, in 1185. It is one of the greatest edifices in Europe: it is of 130 metres long, 48 wide, and 34 high; and is sustained by 128 pillars. This enormous mass, is curious only from its height, antiquity, size, and firmness. Its Gothic architecture is heavy, the sculpture without taste, and illy distributed, attesting the barbarism of the time in which it was constructed. The interior contained many monuments in sculpture, both ancient and modern, and a superb set of pictures, all of which have been moved off or destroyed during the revolution: many of them have been collected by M. Lenoir, and placed in the museum of French monuments. The stalls where the canons sat, still exist; this sculpture is precious, and of perfect finish.

§ 300. *St. Sulpice*.—This church was begun in 1646, after the designs of Louis Leveau; and the first stone was laid the 20th February, of that year, by the queen Ann of Austria, then regent. It was finished under Louis the 15th, in 1733. The vast portal is the work of the famous Servandoni; it is composed of two orders of architecture, one on another; that of the ground floor is a peristyle, formed by a double range of Doric columns, of a metre and thirty centimetres diameter, and thirteen metres high; the Ionic columns of the second order, of the portal, are one metre, forty centimetres diameter. The entire of this edifice has a great effect; it might be better spoken of, and more strongly felt, if disengaged from the buildings which surround it. The interior is handsome, from the nobleness of the architecture; the chapel of the virgin, valuable from the execution of the statue, and the groupes which accompany

it; but above all, the ingenious manner in which it is lighted: Henry Sully, a good clockmaker, and good astronomer, has traced, on the pavement of this church, an excellent meridian: This superb edifice has experienced the same fate as many others, having been devastated by the revolution.

§ 301. *Abbey du Val de Grace*.—Used as a military hospital. The queen Anne of Austria, wife of Louis 13th, after twenty years of sterility, in gratitude to God, for the unexpected birth of Louis 14th, caused this superb monument to be erected. Francis Mansard furnished the designs, which were executed only in part; those architects who succeeded him, would surpass, but fell short of him. The dome of this church is admirable; it is a masterpiece of painting in fresco. The painting represents the abode of the happy, under several hierarchies.

§ 302. *St. Eustache*.—This building is vast, and its architecture is a mixture of Greek and Gothic, producing a very bad effect: the portals very fine, but unfinished. It is the work of the celebrated Mansard, who employed much time on it, and refused the honors due to him therefor.

§ 303. *St. Gervais*, one of the most ancient churches of Paris, is in the north part of the city; it existed in 576. It was reconstructed in the 15th century. The portal, supposed to be one of the finest in Europe, was raised after the designs of Jacques Desbrosses.

§ 304. *School of Surgery*.—The nation and the arts are honored in this superb edifice. This monument, unique in Europe, wherein the elegance and majesty of the whole is conjoined with great purity of detail, was built in the reign of Louis 15th, and completed under Louis 16th, under the designs of Gondouin. It has a peristyle of the antique Ionic order: four ranges of columns, having sixty-six metres front, support an attic, which contains a library and the cabinet of anatomy, in which is found every kind of surgical instruments. The exterior of the amphitheatre is decorated with Ionian and Corinthian ornaments, the effect of which is admirable; above

those orders is a fronton, bearing a bas-relief, representing theory and practice, taking hands over an altar; there are in the interior three grand pieces of painting in fresco, of the *clair-obscur*, by Gibelin.

§ 305. *Mint*.—This building was reconstructed in 1771. Its facadis of 117 metres in width, by 26 high; a projection of six Ionic columns, forms the centre of this imposing mass, having for base, a range of arcades; in the middle is the principal entrance, leading to a superb vestibule, decorated by twenty-four columns, fluted, of Doric work, resting on a pedestal. The stair case, conducting to the apartments, is admirable: there is within it a very rich collection of mineralogy.

§ 306. *The Corn-Hall*.—By its form, extent, and its covering, is a curious edifice. This roof, or cupola, is of forty metres diameter, and forms a perfect demi-circle. The vault of that cupola is composed of planks of pine, a foot wide, an inch thick, and four feet in length, the whole wrought in its place. This ingenious device, the work of Phillibert de Lorne, architect of king Henry the second, was executed by Le Grand and Molines. This cupola was burnt in 1802. The great column of the Doric order, on the outside of the building, served for the observatory of Catherine de Medicis: it is ascended by a spiral stair-case, entered at the bottom of the column. The Father Pingre has executed a sundial, very ingeniously, upon it; at the base is a hydrant, which dispenses the water of the Seine.

§ 307. *The Observatory*.—This edifice was constructed in 1664, under the orders of Perrault; its form is rectangular; there has been neither wood nor iron employed in its construction. This building is vaulted all over. The four faces front each to a cardinal point. In a great hall of the first story, is traced the meridian line, which divides the edifice in two parts; from thence being prolonged south and north. France is divided by it from Collioure to Dunkirk. We descend into the vaults by a stair case of 360 steps: these subterranean

receptacles serve for several mineralogical experiments. In the interior of the observatory, are several halls furnished with astronomical instruments, and a library.

§ 308. *The Opera House*.—This establishment, wherein the arts, talents, the graces and genius, unite to produce the most magnificent, the most brilliant and most enchanting of spectacles, owes its origin to the Abbe Perrin. Lulli, Rameau, Gluck and Piccine, are the musicians recited in the exhibitions. The opera house has been often consumed by fire, and on each rebuilding has shifted its scite.

§ 309. *The Italian Theatre*.—Situated on the foundation of the Hotel de Choiseul, is raised after the designs of Heurtier the architect. The facade is composed of eight Ionic columns, supporting an entablement, surmounted by an attic. Three practicable entrances, under the portico, introduce into a superb peristyle, ornamented with columns. The interior of the hall is completely decorated, and, by a distribution, highly commodious.

§ 310. *Hotel of the Invalids*.—This superb monument, which attests the grandeur and magnificence of its founder, was commenced the 30th November, 1671, after the designs of Liberal Bruant, on which he was engaged thirty years. A vast esplanade, planted with trees, a court surrounded with ditches, in which are placed several pieces of cannon, give the facade of 395 metres long, a character masculine and great. In the middle is a door, where are placed colossal figures of Mars and Minerva, and also a head of Hercules, placed at the centre key; the whole sculptured by Cousto, jun. This door leads to the greater interior court; this court is surrounded with arcades, over each other, which light the surrounding galleries: this architecture has a grand character. From this court we enter the church, which is decorated in the Corinthian order, and is in the form of a Greek cross. The dome forms a new church; around its circular form, are six chapels, richly ornamented with painting and sculpture, the work of distinguished

artists. The flags taken in the last war, are suspended here, and has a fine effect. The dome is ninety-eight feet in diameter; the pavement is in compartments of various marbles. The paintings of the cupola are plainly seen from the centre, representing the glory of the blessed, painted by Charles Lafosse. The architecture of the dome is from the design of Jules Hardouin Mansard; its elevation from the ground floor to its highest point is 595 metres. The outside work is of the most masterly architecture.

Nothing can be more interesting, nothing more capable of inspiring sentiments of veneration, than the view of the hoary veterans seated under the shade of the trees. Since the revolution, this establishment has received great augmentations, and the situation of the invalid has been ameliorated. The great number of those mutilated in war, and who have right of admittance, being beyond the capacity of the hotel, has induced the government to build subsidiary establishments, in several departments, where they are treated with that humanity, which their services merit.

§ 311. *The Military School*.—It was under the ancient government, consecrated to the instruction of the children of persons of family, reduced in fortune. The principal entrance of the building, on the side opposite to the Champ de Mars, was constructed by Louis the 15th, after the designs of Gabriel: its architecture is noble. The chapel is ornamented with painting and sculpture, by the most celebrated artists. The bureau of longitude is intended to be fixed here, where there is already an observatory. A very simple hydraulic machine gives water to the house.

§ 312. *The Fountain of the Innocents*.—Was reedified in the middle of the place which bears the name of the Innocents' Market. It excites the admiration of all connoisseurs. Nothing can be more correct, more agreeable, than the figures in bas-reliefs, representing the Naiads: the draperies are of a truth and lightness truly surprising. In general, the sculpture of it



is perfect, and worthy of the reputation of the author, Jean Goujon. Its reconstruction has done honour to the artists engaged in it. By a remarkable singularity, it is not this fountain that yields the water, but the pieces surrounding it, wherein the hydrants are placed.

§ 313. *Fountain of Grenelle Street*.—The charm of proportions, which constitute the truly beautiful, that happy and judicious distribution of details; and of the large bodies, contrasting each other reciprocally, and giving thereby strong impressions.—Such are the qualities united in the architecture of this fountain: it was completed in 1739. It is to the genius and chissel of the famous Bouchardon, that we owe the execution of this fine monument, and the sculpture of its ornaments.

§ 314. *Fountain Desaix, Place de Thionville*.—Not yet finished; it cannot therefore be said what effect it may produce. A number of French citizens having learnt the glorious death of Desaix, at Marengo, opened a subscription to raise a monument to him. It is executed after the designs of citizen Percier, architect. The sculpture is by Augustin Fortin.

§ 315. *Pumps—Notre Dame and Samaritan*.—These two hydraulic machines are composed of two bodies of pumps, the pistons of which are put in movement by a wheel moved by the current of the river. The water is transported by tubes to the top of the building from whence it goes to supply the fountains and public gardens.

§ 316. *The Pantheon*.—This superb building was constructed to be the church St. Germain; but the revolution gave it a different destination. It is become the asylum of the remains of great men, whom their country delights to honor. It is raised on the designs of M. Soufflot: the form is a Greek cross. It is 109 metres long, comprehending therein the peristyle, and 30 metres broad, including the walls. The facade is composed of a peristyle of twenty-two Corinthian columns, of fifteen metres high. These columns sustain a bold front, the construc-

tion of which unites the Gothic firmness, with the Greek elegance. Nothing can be more magnificent, nor more agreeable, than the ornaments of the portal. The interior is after the Corinthian order; it sustains spherical vaults. The richness of the sculpture, the taste of the ornaments, and the fine proportions of the architecture, renders this monument worthy to be placed among the first sacred edifices in Europe. Louis the 15th laid the first stone, in 1764.

§ 317. *Garden and Museum of Natural History.*—This establishment is situated on the east of Paris, and is composed of a botanic garden, of a collection of natural history, of an amphitheatre for the course, a library, and a menagerie of living animals: it was founded in 1636, by Guy Delabrosse, physician to Louis the 13th; but it had an existence only from the time that Buffon was appointed director of it, and by his care it has become one of the most curious establishments in Europe. D'Aubenton, his successor, and the actual directors, have largely increased its riches; a new hall, above the former, has been filled with a variety of subjects, the fruits of victory; a new green house, of vast extent, and magnificent construction, is about to be erected. A more spacious spot, will serve to lodge the animals of the menagerie, which has been formed from the relics of that of Versailles:—the bear of Berne, the elephants of the Stadtholder, and the animals bought by order of government. A hydraulic machine, curious for its simplicity, supplies all parts of the garden with water, and is put in motion by two dromedaries. The *ensemble* of the gardens, has a grand national character, and does honour to the managers. The government is about to build a bridge in front of the garden, to open a communication between the suburbs St. Antoine and St. Marcel. The piles to be of stone, to the level of the water; the superstructure of iron.

§ 318. *Bridge de la Concord*—Has five arches of a new construction, each formed of a segment of a circle, sustained by

slender piles, with attached columns, the parapets are balustraded; the obelisks to be placed in line with the piles. It is of great strength, but rather narrow.

§ 319. *The Gate of Saint Denis*—Is, by the elegance of its architecture, one of the finest monuments of Paris. It is in front twenty-three metres, and as many in height; the upper part is uncovered, in the manner of the ancient triumphal arches; the principal passage is ornamented with two pyramids connected and bearing trophies of arms, with bas-reliefs and allegorical figures of the victories of Louis the XIVth, for whom this arch was elevated. The figures are designed by Le Brun; the architecture is of Francois Blondel; and the ornaments of sculpture are of Michel and Francois Angier.

*Gate Saint Martin*.—Its architecture is a serpentine bossage. It was elevated in 1674, after the plans of Pierre Ballet. It has three passages, and is ornamented with four bas-reliefs; two representing the taking of Besancon, and the triple alliance; the other two representing the taking of Limbourg, and the defeat of the Germans, under the figure of an eagle, repulsed by Mars.

§ 320. *The National Library*—Feeble in its beginning, has arrived at a degree of magnificence, which renders it the greatest in the world. Charles the Fifth created the first public library at Paris, and placed it in a corner of the Louvre, it containing, at that time, only 900 volumes, in manuscript; for printing was not yet invented. After that invention, Louis the Eleventh augmented it much. Francis the First, and the president De Thou, under Henry the Fourth; Colbert, Louvois, and Bignon, carried it to the highest degree of splendor.—Since the revolution, it has received such considerable accessions, that the space allotted has become too narrow.

The library is divided into four compartments; each under the care of literati. The first, is the cabinet of antiques and medals, under the care of Millin: the second, is the depot of manuscripts, amounting to 80,000 volumes: the third, compre-

hends all the printed books, amounting to 260,000 volumes. In one of the halls we perceive two globes, of twelve feet diameter, made at Venice, by Vincent Coronelle, and presented to Louis the Fourteenth, in 1683. The fourth, termed the cabinet of prints, is made up of all that is fine, in this kind, since the origin of engraving, and contains 6000 volumes, divided into twelve classes, and 2000 engraved plates.

The limits assigned to each division of this work, precludes minute detail; but the enquirer may consult the historical essays on the national library.

A steam pump, is situated at Chaillot: two machines, of the largest dimensions, give motion to the pistons, which throw the water to the most elevated part of Chaillot, where there is four reservoirs placed, of so large a size, that they give, every twenty-four hours, 48,600 muids of water. This water is distributed from thence, by various pipes.

§ 321. *The Library of Saint Genevieve.*—The spot containing it is remarkable for its form and decoration; it is a greek cross, lighted in the centre, by a vault in the shape of a dome; it is decorated with busts, in marble and plaster, of many celebrated men, by Coyzevox; that of Antony Arnauld is by Girardon. The volumes are 90,000 in number, the manuscripts 2000. Attached to this library, was a rich cabinet of natural history, antiquities, and curiosities; it has been broken up, and the materials distributed into other repositories: there is yet remaining, a plan of the city of Rome, ancient and modern, in relief.

§ 322. *Museum of Painting and Sculpture*—contains all that Italy, Holland, and Flanders could produce, in the most perfect style. The museum of the Louvre, contains at this day, 1098 paintings of foreign schools; 270 of the old French school; 3000 of the modern school; 20,000 designs of different schools, 4,000 engraved plates, 3,000 prints, 150 antique statues, and the most precious articles of Etruscan vases, tables of porphyry, &c. More than 1000 paintings are deposited at

Versailles, and six to seven hundred others not yet placed in the Louvre.

§ 323. *The museum of French Monuments*—Occupies the spot lately the Petit Augustins, suburb St. Germaine. From the scattered monuments of Paris, and the provinces, was composed a collection of real French sculpture. The ancient monastic enclosure, has been transformed into an Elysium park, with statues, funeral urns, tombs shaded with poplars and cypress: the halls and gardens are open to the public, and to artists.

§ 324. *Place de la Concorde*—Formerly of Louis the 15th is admired for the views offered from its centre. It is bounded on the north by the Seine, which is passed by a very fine bridge, by Peronnet; to the north, by the street De la Concorde, is the front of the church de la Madaine, an elegant piece of architecture, unfinished; on the west by the Elysees, (Elysian Fields) the immense extent of which the beauty of the planting, and the refreshments distributed, attract in the fine season, a great concourse of persons; and on the east by the gardens of the Tuileries. The buildings of the north part, fronting the Seine, are of a very good architecture; they are divided into two, by the street De la Concorde, conducting to the church of the Magdalen. Those buildings are 94 metres long, by 23 in height; they are decorated with a peristyle of the Corinthian order, composed of 12 columns, resting on a basement, open *en portique*, forming firm galleries, and crowned with balustrades, frontons, ornamented with allegorical figures and trophies. Some of those buildings, being appurtenances, of the Crown, are the residence and offices of the minister of marine.

§ 395. *The Aqueduct of Arcueil*—May be compared to the Roman works; it was constructed after the designs of Jacques de Brosse, by order of Catherine de Medicis. It is 600 metres long, and its greatest height twenty-four; it is composed of twenty arcades, and a cornish, ornamented with medallions,

and surrounded by an attique. This aqueduct conducts to Paris, by sluices, all the waters of Rougis, with several other springs. Near this is found some vestiges of an ancient aqueduct, built by the Emperor Julien, to conduct the waters to his palace of Thermes, situated on the street De la Harpe.

§ 326. *The Veterinary School*, at Alfort, is two leagues from Paris. It was founded in 1764, by solicitation of Bertin, then minister of finances. The object is the art of healing, applied to animals. Its cabinet of zoology and anatomy attracts attention. The art of injecting and dissecting, is carried to a degree of perfection truly surprising. This collection augments constantly. An injection with wax, the work of Guthier Dagoty, sen. is much esteemed by connoisseurs. Messieurs Perriers have executed, in the gardens of this establishment, a hydraulic machine in iron, very ingenious; it supplies the place with water abundantly.

§ 327. *The Pleasure Houses*, surrounding the capital, are all worthy of fixing the attention of the curious, by the choice of position, the beauty of the gardens, or their decorations, particularly those of Tivoli, of Mousseaux, Saint James, near Neuilly, and Moulin-Joli, near Argenteuil. The Tivoli is of forty acres, and planted with so much art, that there is a meadow, a treillis, a grove, a river (in appearance) a mountain, cascades, thatched cottages, grottos, all interwoven with honey suckle and other odoriferous shrubs, a place of shews with hedges of elms, and grass plots, an aviary, a rotunda covered for dancing, &c. These objects are so happily placed, that notwithstanding the smallness of the plot, we must seek them out.

§ 328. *Mousseaux* is situated at the extremity of the suburb of Du Roule. It is planted in the English style. All that the imagination can invent in the marvellous, is found here, for the embellishment of the place—Gothic ruins, Greek ruins, superb peristyles, baths, ornamented with statues, Egyptian obelisks, and kiosques. All these objects of magnificence, in

ruin or not, contrast happily with the rural simplicity, and pleasing irregularity of the grounds—the thickets, vine slopes, rocks, meandering rivulets, cottages, with groups of trees, forming a most picturesque scenery. This beautiful garden was laid off by M. Carmontel for the Duke of Orleans. It belongs at present to M. Cambaceres.

The Abbe de Lille, in his poem, speaking of gardens where art supplies verdure, even in the time of winter, cites Mousseaux. The green house is supposed to excel all others.

§ 329. *The Moulin-Joli*.—We have the description of M. Watelet, the proprietor of this house, who, after giving the details in preparing the grounds, mentions the bridges communicating with several little isles, on the Seine, making the most pleasing part of the gardens. Some, placed among trees and prolonged over isles and channels, afford long walks; others, on small bateaux, ornamented with flowers; boxes and arbors for refreshment, tastefully placed, &c.

§ 330. *Vincennes* is a royal palace, a league from Paris, on the border of the wood of the same name. The kings hunted here, and had a considerable establishment. In the year 1183, the King Philip Augustus surrounded it with walls, pulled down the buildings raised by his predecessor, and laid the foundation of a castle, known by the title of “Donjon.” St. Louis inhabited it a long time, with his mother and spouse. From that period, till the reign of Louis the Fourteenth, it received many accessions. Its present form is a regular parallelogram, of considerable grandeur, and surrounded with large ditches; it is made up of many ancient and modern edifices. Around this parallelogram are nine square towers, very high; they serve to lodge the princes of the royal house. The “Donjon Tower” was occupied by the kings, queens, and their children. The deep ditches, lined with stones, renders access impossible, and the entrance is only by a draw bridge over the fosse. There are to be seen, in one of the nine towers, called the Tower of Superintendance, four cells of five

or six feet square, the beds whereof are of stone, and a great cave, which cannot be entered but by a hole in the vaulting, which renders this prison a real tomb. Louis Thirteenth, and Louis Fourteenth, have constructed several neat buildings here, under the designs of Leveau.

§ 331. *Senlis*, whose walls were built by the Romans with brick and cement, forming an unalterable mass, is very curious. At eight kilometres south of the city, was the magnificent castle of Chantilly, which by the beauty of its running waters, gardens, extensive forest, &c. was inferior to none in Europe. It was the residence of the great Conde, and was occupied by his descendants till the revolution. Their emigration made it national property; it was sold, and the new owners have destroyed, in a year, what many years and many millions had created. This delicious seat, whose beauty attracted all foreign travellers, and many of the kings of Europe, is now only a heap of ruins. The waters, no longer constrained within their basons, which are reduced almost to ruins, spread themselves on all sides, so that unhealthy marshes have replaced the most agreeable gardens.

§ 332. In the department of L'Oise is the happy and celebrated mansion of *Ermenonville*, the beautiful scite of which is still more augmented by the hand of Genius. In the middle of the park is placed the castle, formerly the retreat of the fair Gabrielle, mistress of Henry the Fourth. Grottos, rustic temples, philosophic altars, and inscriptions, consecrated to Friendship, are the decorations of those magnificent gardens, which are laid off in the English style. Here lived, many years, the celebrated Rousseau, and he is here interred in the Isle of Poplars; the tomb is simple, and bears this inscription :

“ HERE REPOSETH THE MAN OF NATURE AND OF TRUTH.”

On another face is a bas-relief, whereon the precepts of education, laid down by the philosopher, are put in action.



The chief figure is a mother holding a volume of Emily, which she seems to protect from the enemies of humanity, whilst she performs the sacred duty of suckling her child.

§ 333. *Lyons* has always been reckoned one of the most ancient, rich, and celebrated cities of France. It was founded in the year of Rome 712, forty years before the Christian era, by Lucius Munatius Plancus, who was consul with Emilius Lepidus. He built it on the Saone, at its confluence with the Rhone, and peopled it with those Roman citizens who had been chased from Vienna by the Allobroges.

There is still to be seen in this city, the remains of magnificent works, with which the Romans had ornamented it. The theatre was on the mountain of St. Just, in the lands formerly occupied by the convent *Des Minimes*. There is left of them but a few arcades, and some heaps of stones. Aqueducts were made to convey the waters of the Rhone into the city, and even those of the river Furan. The reservoirs for containing those waters, are seen in many parts of the city; but chiefly in the garden of the celebrated monastery of the desert, and in a vine plat of the Ursulines on the hill of Saint Just. The emperor's residence, when at Lyons, was on the slope of the same hill, on the ground occupied by an ancient monastery, called the convent *Des Antiquailles*; because medals were dug up every where through the soil, and other antiques. In the church of Saint Martin d'Ainay, the four columns which sustained the altar, were elevated to Augustus, at the confluence of those rivers, by sixty Gallic tribes.

The bridge over the Gardon near Nimes, without contradiction one of the finest monuments of Roman antiquity, is one of the firmest works ever known: this bridge serves also as an aqueduct, for bringing the water from the fountain D'Aure, from Uzes to Nimes; it is formed of three ranges of arches, one above another; the first, placed at the bottom of the valley, is of six arches; the second, of eleven; the third, of thirty-five. The river Gardon, passes in the bottom of the valley,

under the arches of the first bridge. The beautiful bridge, near the town of St. Esprit, a little below the confluence of the Ardeche, may be mentioned. The first stone was laid, September 12th, 1265, and completed in 1309. Its construction is very firm: it is of twenty-six arches, nineteen great, and seven small, fully vaulted. The greatest have thirty-seven metres of span; the bridge is 800 metres long, and 5 metres, 54 centimetres broad: it describes several sinuosities, from the difficulty of procuring a proper foundation.

### MINERAL WATERS.

§ 334. The history of mineral waters, was, before the time of Frederic Hoffman, but a tissue of lies and errors; unfaithfulness in observation, insufficiency of the instruments used in determining the specific weight and temperature, no knowledge of the combinations and decompositions, by the action of fire and reagents—what could be predicated on premises so uncertain? Thanks to the labours of this great man, the chaos has disappeared; he has thrown light on this interesting branch of medicine! The analysis of them received from Venel, Bayen, and Bergman, has given new progress. They have opened a new route, to penetrate the composition of mineral waters; and the chemists which have succeeded them, are putting the finishing hand to those researches.

Though the science is at present much advanced, as to the knowledge of the constituent ingredients, yet it would be wrong to conclude, as has been done, that nothing is easier, than to analyse a mineral water. As there still remains phenomena to be explained, and difficulties to vanquish, in this analysis, we would counsel those who would advance with certainty in such investigations, to take for their guide the learned analysis of the waters of Bagnères, of Luchon, by Bayen, models of exactitude, clearness, and precision, in which the

philosopher, the naturalist, the chemist, will discover new lights, and even the antiquaries will find historical monuments.

It is by combining practical observations with the analytical results, that the professional man obtains the knowledge necessary to determine, with surety, which are the waters proper to be recommended for the diseases respectively, their manner of operation, what principles should direct their usage, and the needful precautions to assure their success.

§ 335. *Waters Sulphurous and Hepatic.*—The waters thus named, exhale, usually, the odour of stale eggs, and is disagreeable in taste. They are recognized by these two qualities—they blacken silver, when immersed in them, but after being exposed to the open air, or to heat, they give no longer the colour: the precipitate they form, placed on heated iron, or on a burning coal, gives out a blue flame, and suffocating vapour. In all the waters termed sulphuric, its principles are found combined, and in the state of alkaline sulphur, or sulphur of iron. The latter ingredient is generally found united with hydrogen gas, forming a sulphurated hydrogen gas, which is dissoluble in water. Such is generally the composition of our Pyrenean waters, and of all those called *hepatique*.

§ 336. *Waters Ferruginous, or Martial.*—They rarely contain any other substances than iron, or are combined with any other acid than the carbonic acid gas. This truth, first discovered by Model of Petersburg, has been confirmed by Bergman, and all who have followed him. It was found at the same time that iron was combined with sulphuric acid, by means of which it forms a sulphate, of which we find examples in the most accredited works on that subject. The martial waters are distinguished by the taste; they have the flavour of ink, more or less; gall-nuts tinge them black or purple, and they precipitate the iron under the form of a *magma*.

§ 337. *Waters, Gaseous, or Acidulated.*—Mineral waters contain not only fixed substances; but they are found also to abound in volatile principles—a gas, or acid, and which

may be regarded as the most efficacious in medicine. This kind of water is recognized by its briskness and sparkling, and sharpness of taste. The tincture of turnsol becomes red by admixture. Though the volatile principle of these waters is commonly derived from the carbonic acid gas, yet its quality should be ascertained, by means of a lighted wax candle, the flame of which will become immediately extinct, if the gas is carbonic, but if it burns, it is then hydrogen gas.

§ 538. *The Saline Waters.*—When waters have lost the principal substance which mineralize them, as when the sulphur, iron, and gas, are separated from them, they still contain things saline and earthly, in solution. They are discerned by taste, or a little lime water, the nitrate of liquid mercury, and potash, readily discovers the nature of their salts. Evaporation afterwards shows us in what proportions they are found. Every mineral water contains several kinds of salt; there is found, sometimes, three or four; and if they contain air besides, they are brisk and light. Sometimes there is carbonic acid gas, and this combination is found not only in our cold, but in our warm springs.

Though a great advantage in drinking mineral waters, hath been attributed to the greatness of the quantity used, it must be avowed, however, that the usage of them must be aided by other drinks, diluting or mucilaginous, as prescribed; whether it be for correcting a mineral water, the too great activity of which is dreaded, or to take on the journey, after the waters are run off. The use of those laxative drinks is not merely indifferent, and ought to be adopted only on the advice of a skilful physician. In some cases, the use of wine is recommended along with the waters. It is true, however, that in most cases, the wine is of service, when the waters are recommended; but prudence dictates the moderate use of them; the sick, therefore, should be counselled to mingle their wine with a quantity of water, according to the state of the stomach; they should also be forbidden the use of spirituous

liquors, and other exciting drinks. The gaseous waters may serve, with advantage, to qualify wine, even at meals.

The most part of mineral springs are situated in the mountainous countries, where the climate is variable. Though the fine season is chosen to visit the waters, the sick are yet exposed to the vicissitudes of heat and cold, dryness and humidity. Ordinarily the mornings are very cool, the dews heavy, the fogs thick, followed by a burning sun till four, when the cold again alternates. These changes exact precautions in exercise and clothing.

Moderate exercise is salutary in aiding the operations of the waters. For that reason, agreeable walks in the open air are recommended, when the weather permits; when it is cold or rainy, a game of billiards, or something similar. During this time, the invalids require refreshing sleep; they should therefore avoid sitting up late. Gamblers, who frequent the watering places, should be carefully shunned: every thing tending to excite the bad passions to be carefully avoided.

It is rare that constipation is not consequent on the use of ferruginous waters, the gaseous and sulphuric, as the excretions by urine and perspiration are augmented. This is remedied by a *lavement* of water simply, or emollient herbs. Some physicians prescribe a few grains sulphate of soda, or glauber salts, sulphate of magnesia, or epsom salt, or laxative pills. The saline waters, on the contrary, chiefly those of Balaruc, Bourbonne, De Vichy, &c. usually act as purgatives, and keep up a diarrhœa. This continuing becomes hurtful; the water is then qualified by a mucilaginous beverage.

A principal duty of the officers of health, residing near the springs, is to ascertain their abundance, if deep or superficial; to examine their qualities at different seasons, and whether the quantity is the same throughout the year, and what sediment is deposited, what are the qualities of the earth and stones around it; the quantity to be drank, the effect produced by the waters avoiding exaggerations, which produces an effect con-

trary to that intended, and to avow the facts making against them, with frankness.

§ 339. *Waters of Aix la Chapelle*, at present of France.—They are almost always of a temperature above that of the atmosphere. Some of the springs raise the thermometer to thirty, others to forty, and one to fifty-one degrees. All these waters, besides the odour of the sulphurated hydrogen, are saline, and somewhat alkaline. There is found in them an alkaline carbonate, with some carbonate of lime, and muriate of soda. The properties of these waters are similar to all the sulphureous hot waters, of which we have occasion to speak. It is supposed they are superior to all others in cutaneous complaints. They are used in drink, and by bathing. They succeed best when taken at the spring, in their natural warmth. They seldom preserve their hydrogen sulphurated gas, and lose the taste and smell when transported.

§ 340. *Waters of Aix*, at five leagues from Marseilles. They are thermal, though the warmth is but slight. According to M. Lieutaut they are aperitive and incisive. They are said to be lightly alkalized, and contain sulphur and muriate of soda. It has been remarked that they are not suitable to all ages and temperaments. For instance, they are hurtful to aged persons, the bilious and weakly, and to young persons who are meagre and melancholy. But the reports are contradictory.

The waters of Aix are in the department of Mont Blanc. The valley, in which they are situated, offers a prospect agreeable and picturesque; the country is smiling and fertile; the view of a lake, a vast plain, rich pasturages, eminences covered with tillage grounds, vineyards, natural prospects—all presenting an enchanting spectacle.

There are two springs, one called Sulphur Water, the other Saint Paul. The water of both is warm, the temperature being thirty-three to thirty-six degrees Reaumur. The Sul-

phur Spring is used chiefly in shower. The other is drank, and serves for private baths. They have been both analysed by Doctor Bonvoisin, by which it appears that the first contains the sulphate of soda, sulphate of Magnesia, sulphate of lime, muriate of magnesia, carbonate of lime, iron, a little extract of animal matter, carbonic acid gas, and particularly sulphurated hydrogen. They exhale an odour of stale eggs, becoming less sensible, when immersed in the atmosphere of the shower bath. They blacken white metal. The Spring of St. Paul contains sulphate of soda, sulphate of lime, sulphate of magnesia, and carbonate of lime, and iron. They give also a small quantity of animal extract, and of sulphurated hydrogen gas. The water discolours less effectually, and the smell of stale eggs is less offensive; both are unctuous to the touch: the purgative salts they contain, are not in sufficient quantity to produce a sensible effect, at least they give not the water a mechanical action, when given in a strong dose. These waters are said to be serviceable, when the tone of the system is to be roused, and vital action excited. When used in shower bath, particularly, they produce this effect. They are efficacious in sciatic pains, in paralytic affections, whether taken in drink, bath or shower. In serous apoplexy they are known to produce good effects; they act also, in catarrhal defluxions. Often they dissolve obstructions in the glands, and belchings, performing a radical cure. The nervous complaints are also removed by them. In taking them, precautions are necessary, which the physicians of Aix are fully able to direct.

§ 341. *The Waters of Bagnères*, in the department of the Upper Pyrenees. In this department the mineral waters are common. The springs, in general, are warm; though the temperature is not equal. The lowest in temperature is fourteen and a half degrees of Reaumur, and the warmest forty-eight. The virtue of those waters depend on their heat, as on an analysis they are found to contain only an earthy sulphate.

These waters are drunk, and used in bathing, and found most effective, used in both ways, at the same time. Their properties appear to be aperitive, diuretic, and slightly purgative; many wonderful cures are mentioned, though no doubt exaggerated. They are not so much frequented as they were formerly.

§ 342. *The Waters of Bagneres de Luchon*, a small village at the foot of the Pyrenees. There are seven springs, the waters of which are of unequal temperature. They smell of stale eggs, and have a disagreeable taste; but after a few days use, it becomes less so.

The waters are used in drink, and in bath; near the springs are stoves warmed by the water conducted there. These are not much frequented, nor can any one remain within, above fifteen minutes, the vapour being so warm and close. These waters have been analysed by the late Mr. Bayen. It results that this water produces sulphurated hydrogen, carbonate of soda, muriate of soda, sulphate of soda, silicic acid, and some extractive matter: all these matters are in small quantity, as each pound of water furnishes but two and a half grains of residuum. They are said to be—aperitive, diuretic, diaphoretic, dissolving, detergent, and vulnerary. They are commonly visited in spring.

§ 343. *The Waters of Balaruc*—a village about four leagues from Montpellier. The spring is plentiful; the water is limpid, and saline, and its highest temperature is forty-two to forty-three degrees, at the fountain head. According to M. Le Roy, the constituents are—a solution of sulphate of lime, muriate of lime, and muriate of soda. M. Le Roy presumes it contains carbonic acid, as it reddens the tincture of turnsole, and when poured into a vase, and begins to cool, there is seen many little globules, separating from the fluid. We think also, that it is not exempt from sulphurated hydrogen gas, though he has not ascertained its existence, but believes so from the odour sometimes exhaled. The quantity of saline matter, in solution, in the water of Balaruc, may amount to four grammes



the pint. It is taken in drink, bath, injections, topically, and by steam. To this water is attributed a stomachic and tonic effect; it relaxes the bowels, stops looseness, and vomiting; when many others fail, it is useful in jaundice, and paralysis especially.

§ 344. *Bareges*, is a village in the valley of the same name, four leagues from Bagnères. M. Montant, who has, it seems, analysed these waters with more care than his predecessors, assures us, that they contain sulphurated hydrogen gas, carbonate of soda, muriate of soda, absorbent earth, alumine, all in small quantity. They are said to cure phthisis, cutaneous diseases, ulcers, rheumatisms, enchyloses. They are detersive, penetrating, aperitive, and sudorific: they succeed particularly in venereal complaints. They are drank, bathed in, and taken by injections, and topically. They are used on regimen.

§ 345. *The Waters of Bonnes*—are in a little village of the department of the Lower Pyrenees. They have always been deemed a remedy for the maladies of the breast, and lately for ulcers, employed as a lotion. They are said to contain sulphur, iron, an earth, a salt, and a volatile substance, supposed to be sulphurated hydrogen.

§ 346. *Bellevue les Bains* (ci-devant Bourbon Lancy)—Situating in the department of the Saone and Loire, seven leagues from Moulins. The spring is in the middle of a valley, which is at the foot of a hill, whereon this little town is built. There are several fountains used by the invalids. There were baths formerly, which, from their magnificence, were regarded as Roman; but their repair being neglected, they are falling into decay. They have hardly any flavour, and are warm. The warmest forty-six degrees therm. and the least warm thirty degrees. They are said to contain carbonate of soda, and absorbent earth. The virtues attributed to them, are in curing obstinate fevers: it is said also, that they are diuretic, diaphoretic, stomachic; stop diarrhoeas, &c.

and, in some asthmatic cases, are favourable. They are employed, not only in drink, but in the baths, and topically for cutaneous, paralytic, and rheumatic complaints.

§ 347. *Burge les Bains* (ci-devant Bourbon Larchambault) is six leagues from Moulins. The waters are very hot, and have a high reputation. According to the analysis of Boulduc, these waters contain muriate of soda, sulphate of soda, sulphate of lime, iron, and bitumen; but all in small quantity. They are aperitive, incisive, and provoke perspiration, when drank in large quantities. Bayen, who has examined them, supposes that the effects they produce are, in a great measure, owing to their natural heat; because, there are many waters drank in a cold state, which, though they have the same ingredients, produce not the same effects. The dose, in some cases, amounts to fifteen or sixteen glasses each morning; but few require so much: exercise is recommended, to prevent swelling in the stomach. They are taken to most advantage in spring and autumn.

§ 348. *Bourbon les Bains*.—This little town is seven leagues from Langres. The heat of the different springs varies from thirty to forty-eight degrees. They are found to contain sulphate of lime, muriate of soda, and absorbent earth. Monnet fixes the quantity of muriate of soda, at two grammes to a pound of water. They are not disagreeable to the taste, and are preserved a long time in bottles, unaltered. Those who bathe, find it too hot, when just from the source: sometimes the muddy part is taken up from the source, and applied to different parts of the body; it dissipates pains, which do not yield to the topical action of a stream. Many marvellous cures are attributed to them; but they are with certainty said to be aperitive, laxative, and sudorific: they are serviceable in all cases of obstructions, of nervous and paralytic diseases, and advantageously supercede the ordinary medicines.

§ 349. *Bussang*, is a watering place in the mountains of Vosges, where the springs flow from the rocks. The waters

are colourless and limpid. The bottom of the basons, and wherever it runs, is coated with an ochreous substance, the thickness of which is always augmenting. On the surface of the water in the basons is perceived a pellicle, which reflects the colours of the Iris. Their taste is piquant and a little sour, but if kept a long time in the mouth, is succeeded by the same taste as is obtained by a slight solution of sulphate of iron. The analysis of these waters, made by Monnet, informs us that they contain carbonate of iron, carbonic acid to excess, carbonate of soda, and muriate of soda, all in solution at their egress, but after a little exposure to the air, they lose the sourish taste, and precipitate, at the same time, a yellow ferruginous oxide, which fixes on any body exposed to it. The waters resemble any other potable waters. In the Vosges, and in the departments of the higher and lower Rhine, many persons, without being indisposed, mix the waters of Bussang with wine, and obtain, by this means, a drink which is agreeable, from the pungent flavour it acquires; but this effect is not produced except when the carbonic acid is obtained. These waters are beneficial in cases of over repletion, particularly in cases of the liver. We have seen invalids, attacked with very obstinate jaundice, cured in a month or six weeks; but it is in autumnal fevers they are found most useful. They are very cold.

§ 350. *The Waters of Caunterets*—are seven leagues from Bareges. The temperature of the different springs varies from nineteen to forty-three degrees. Their taste and smell demonstrate that they are impregnated with sulphurated hydrogen gas, and by analysis they are found to contain sulphate of soda. M. Montant declares they resemble those of Bareges; but there is no salts in the waters of Caunteret. They are used by drink, bath, and topically.

§ 351. *The Waters of Chateldon*—three leagues from De Vichi. There are two springs, the water whereof is sourish, pungent, and ferruginous. It appears by the analysis of Doctor

De Brest, and others, that these waters contain carbonate of magnesia, carbonate of lime, muriate of soda, and carbonate of iron in excess. To the presence of the last it owes its pungency, which it loses when exposed; it then precipitates a pale yellow sediment, which is merely an oxide of iron, held before by the carbonic acid in solution, and with which it forms a real carbonate. These waters resemble those of the Spa; Dr. De Brest, however, thinks those of Chateldon preferable, as they contain less iron. These are said to be calming, refreshing, aperitive, diuretic, and antispasmodick; in palpitations of the heart, and melancholic affections, and those arising from diseases of the liver. The complaints peculiar to women experience relief.

§ 352. The village which bears the name of *Centrexeville*, is four leagues from Neufchateau, in the Vosges. This spring is abundant, the water cool, limpid, and of a flavour lightly ferruginous. Among different analysis, that of Thouvenel and Nicolas gives carbonate of iron, muriate of lime, sulphate of magnesia, sulphate of lime, and carbonate of lime; these five substances are in small quantity, though the amount of their weight united forms a total of about seven decigrammes, or eight grains a pint of water. Monsieur Thouvenel is of opinion, that independent of those products, it contains a matter unctuous and bitumenous, combined with saline matters. This opinion, however, is not confirmed by M. Nicolas. It is said by M. Thouvenel, who has had sufficient opportunities of judging, that those waters are useful in removing obstructions, cutaneous complaints, repletion of the glands, and above all in the reins and bladder. They are said to be effectual in dissolving stones in the bladder, and are preventative of urinary calculi.

§ 353. *The waters of Cransac*, department of Aveyron, near Rodez. The situation of those mineral waters is among arid mountains; some of them emit black smoke, of a disagreeable smell. The springs do not exhibit similar properties, and

they are distinguished into old and new: that called new is most frequently employed; it is cold, limpid, and without smell. The savour approaches to a light solution of sulphate of iron. It contains but little saline matters in solution, since after various analysis, 367 grammes (twelve ounces) of this water gave but eighteen grains of saline residuum, containing some sulphate of iron. There is much analogy between the waters of Passy and Cransac, in composition and effect. It is efficacious in strengthening the stomach, in menstrual diseases, enlargement of the liver, cutaneous complaints, and of the urinary passages. Its effects are—abundant stools, and often purgative; these effects decrease by use. They are drank cold.

§ 354. *The waters of Dax, ten leagues from Bourdeaux—*There are several springs of a clear, and almost tasteless water, and so warm as to raise the thermometer to fifty-six degrees. According to M. Secondat, they contain a small quantity of muriate and sulphate of lime. It seems that it is not the salts in those waters, so much as their warmth, that gives them effieience; they are of course, powerful only when taken at the fountain. These waters have been prescribed for the gout and rheumatism; and they succeed only in those cases, when used in drink, and in bath.

§ 355. *The waters of Digne—*department of the Lower Alps, seven leagues from Sisteron. There are many springs, all warm, being from 80 to 40 deg. of Reaumur. The waters of Digne are taken in drink, and bath; some use vapour stoves constructed near the springs; others use all three means. Many virtues are attributed to them. No correct analysis has been made.

§ 356. *The water of Dinan, six leagues from St. Malo,* is of high reputation—it contains carbonate of iron, muriate of soda and potash, and an earthy carbonate. Its taste is ferruginous, and of perfect transparence at the fountain; but after being a little time in the open air, it gets muddy, and

forms an ochreous sediment; it then loses its natural flavour. With great truth there is ascribed to it the properties of an aperitive, detersive, astringent, and corroborant. It is found useful in the green sickness, uterine evacuations, and moderates the menstrual flux. They impart an inclination to vomit, if too heartily drank.

§ 357. *The waters of Forges*, department of the Lower Seine, nine leagues from Rouen. The chief spring is cold, colourless, and very clear—in taste slightly ferruginous. The analysis gives carbonate of iron, carbonate of lime, muriate of soda, and sulphate of lime: it grows muddy after standing in the open air—the deposit is ochreous. The waters of Forges are reckoned a peritive, penetrating, tonic, and diuretic.

§ 358. *The waters of Gabian*, four leagues from Beziers. There are two springs, one called the *Source de Petrole*, and the second, *Fontaine de Sante*. The analyse of the second has not been made: the only thing agreed on, is—that an alkali and an earth is held in solution; but it is not known whether that alkali is soda or potash, or whether the earth is lime or magnesia. It is deemed vulnerary and detersive. As to the Petroleum spring, it is very famous for the quantity of bitumenous liquid it furnishes annually: that matter is collected carefully, and used interiorly and exteriorly. In the first case, it is deemed balsamic, antispasmodic, diuretic, diaphoretic, vermifuge, &c.: it must always be given in small doses, and mixed with miscible matter. Outwardly, it is employed in lineaments, mixed with oils, soap, and fat: it is asserted that in this state it is dissolving, restores feebleness of parts, numbness or paralysis. This Petroleum is very inflammable; it acquires the consistence of resin, by long exposure to the air.

§ 359. *The waters of Lamotte*, near Grenoble, according to Nicolas, contain carbonate of lime and magnesia, and muriate of soda. It is said to be aperient, deobstruent, and stomachic; is efficacious in paralysis, rheumatism, and nervous sciatica.

§ 360. *The waters of Luxeuil*, six leagues from Vesoul.—They are all warm, except one, and are used for bathing and drinking. The spring of cold water is recommended in diseases of the liver and stomach. It is also useful in the green sickness and menstrual complaints.

§ 361. *The waters of Mont d'Or*, within seven leagues of Clermont, in a village at the foot of the mountain: there are three springs, the waters of which are thirty-six to thirty-seven degrees. There are also two that are cold. These waters are used in bath, or in drink: they appear to be impregnated with carbonic acid, when settled, and have a pungent, sourish taste. In drink, they relieve phthisis, schirrous tumours; but it is chiefly by bathing that they give relief in gout, and rheumatism, particularly when to the bath is added the application by stream. Those who frequent the springs should partake as much as possible of the mountain air.

§ 362. *The waters of Passy*—in the agreeable village of that name near Paris, noted for its situation, the vicinage of the woods of Bologne, and its ferruginous springs. There are two among these worthy of being mentioned. One of them is called ancient, the other new. The last is now preferred, as its effect was more permanent, and more congenial to invalids. It has been many times analysed. Venel and Bayen have found in the ancient spring, a dissolution of sulphate of iron, muriate of soda, of nitrate and sulphate of lime. As to the new waters, Monnet declares, that after separate examination, with much care in the three springs that are used, he discovered that two only contained sulphates of lime, of magnesia, and of iron; and that in the third, the iron, instead of being held in solution by the sulphuric acid, is united with the water. They afford relief in cases of obstructions, and in reestablishing the system after severe fevers.

§ 363. *The Waters of Plombières*.—At this place there is a great number of springs, and more are daily found by dig-

ging a little depth, nearly all of them are warm, but their temperature is not the same, and varies from 56 to 32 deg. of the thermometer. This water, says Monnet, has nothing disagreeable to the taste; by evaporation, it gives so small a quantity of alkaline soda, and of earthy matter, that several pints of water must be evaporated to find it; for in one pint it is hardly perceptible. They are taken in drink, in bath, and by pouring by medical advice as the case may be. They are represented as antiparalytic, alleviate extreme pains, and some cutaneous complaints, by provoking perspiration, and the other secretions.

§ 364. *The Waters of Pougues*, in the department of La Nièvre.

The spring is abundant and flows equally throughout the year. This water does not enjoy all the reputation it merits. According to Costel, a distinguished chemist of Paris, these waters have a flavour brisk and pungent, being saturated with carbonic acid, it is inodorous, colourless, and limpid. It holds in solution, absorbent earth, iron, muriate of soda and alkali of soda. After exposure to the air, it alters. The earth held in solution holds a saline scum on the surface, known to be carbonate of lime: the iron is precipitated in an ochreous state, and, at length, loses its brisk and sourish flavour. It is recommended in cases of dropsy, in diseases arising from obstructions, chronic swellings, and liver complaints; also in diseases of the kidneys and bladder, gonorrhœa, and relaxations of the spermatic vessels; and it is also recommended for hysteria and hypochondria. It is drank with wine, to which it gives the flavor of Champagne Mousseaux.

§ 365. *The waters of Pyrmont*, near to the Weser, in the circle of Westphalia, at a little distance from the castle of the same name. Fourcroy has given an analysis of these waters, from which it appears there is a considerable portion of carbonic acid, rendering them pungent and sourish, carbonates of lime, iron, and magnesia, sulphates of lime and magnesia, and



muriate of soda. There are few that hold so many substances in solution.

§ 366. *The Spa*, six leagues from Liege, is rich in mineral water: seven are counted, which are acidulated, abundant, and mineralize by nearly similar principles. Strangers flock thither in great numbers, the equality reigning among persons of all ranks; the enjoyments of a liberal society, the union of pleasures, exercise, sports—all abound without reserve. For these causes, perhaps, these waters obtain a preference over those of Pyrmont and Chateldon, with which they have an analogy, from the ingredients they contain.

The last analysis, on which any reliance can be placed, is that of Fourcroy, by which it appears they contain much carbonic acid, carbonate of iron, soda, magnesia, and muriate of soda. They are limpid, pungent and sourish, and lightly ferruginous. They are drank, morning and evening, and even in the course of the day; sometimes they are mingled with wine, to which they give an agreeable pungency. It is said they are sedative, refreshing, aperitive, diuretic, and even antispasmodic; they are used in cases of debility from relaxation, palpitations of the heart, melancholic affections, nervous disorders, obstructions of the viscera, periodical flux, when deranged or suppressed.

§ 367. *St. Amand* is three leagues from Valenciennes. There are three springs, called Fontaine du Bruillac, D'Arras, and Ferruginous. Invalids use the two first, experience proving the waters to be preferable to the third.

The waters of the two first springs, according to Monnet, have a faint smell of sulphurated hydrogen gas; in the mouth it leaves the same impression as liver of sulphur. A piece of silver exposed some time to the surface, first turns yellow, and then blackens. It is somewhat warmer than the atmosphere. Exposed to the open air it loses its sulphurous quality, and becomes like common water; by evaporation it was demonstrated to contain absorbent earth, sulphates of lime and soda,

but in small quantities. Near the fountain of Arras is found a black mud, collected in an open bason of the water, the smell is disagreeable, and becomes more so when heated. This mud appears to be an earth, fat and bitumenous, constantly exuded in the water, and undergoes a fermentation in its course. It is used only as drink, to dissolve stones in the kidneys, and gravel, and remove obstructions in the viscera. The sediment is applied to cure sore legs, debility of the members, paralysis, rheumatism, sciatica, swelling of the joints, and strictures arising from wounds.

§ 368. *St. Myon*, department of Puy-de-Dome. This water has been accurately analysed by Costel; it is colourless and transparent, its savour is pungent and sourish, and not unlike the Champagne Mousseux; when agitated strongly, it shews a great number of bubbles, which fall with the escape of the elastic fluid, which formed them: this fluid is the carbonic acid; when thus separated, the water retains a flavour slightly alkaline: the tests discover alkali of soda, muriate of soda, carbonate and sulphate of lime. They are used for menstrual complaints, regulate discharges, and gonorrhœas of obstinate standing.

§ 369. *The Water of St. Saviour*, in the valley of Barrege, is from an abundant spring. It flows from the mountains, and supplies the baths, placed over each other. It has the smell of stale eggs, and is at first disagreeable. The temperature exceeds not thirty-two degrees of Reaumur. At the bottom of the basons, where it is collected, there is always a whitish sediment, which, when dried and thrown on burning coals, gives out, in burning, an odour very strong, of volatile sulphurous spirit. It is said that analysis has furnished merely sulphurated hydrogen gas, and a little sulphate of lime.

§ 370. *Seltz* is distant from Strashurg nine leagues. The water is cold, of a lively taste, pungent, and perceptibly saline, and very transparent. Venel has analysed it, and discovered the principle which gives to the water its brisk and sourish

taste, which is the more important, as it leads to the knowledge of the same principle in all other waters denominated gaseous. Before Venel, the common opinion was, that the gaseous waters owed their properties merely to a superabundance of the atmospheric air contained in them: but this chemist has proved that it was to the carbonic acid it must be attributed; he proves its existence, calculated its quantity, and shewn its disposition to fly off, and that it is to its presence in the Seltz, it owes its property of bubbling on the surface, and the effervescence heard when a bottle of it is unstopped. Besides the carbonic acid, the Seltzer contains carbonate of magnesia, of soda, but particularly muriate of soda; the quantity of the two first is but small; but there is more of the last.

This water is placed among the number of purifying medicines, augments the urinary secretions, is useful in some affections of the breast, rheumatism, and gout, in hysteria, and hypochondria, in tetters and cutaneous complaints. It is drank pure, or mingled with wine or milk. When bottled, it changes for the worse. Bergman has also analysed those waters with exactitude.

§ 271. *The Waters of Vals*, six leagues from Viviers.—There are five springs, that known by the name of Dominique is most frequented.

Mitouard, professor of chemistry at Paris, has analysed this fountain; he states the result to be—carbonic acid gas, sulphate of iron, and sulphate of alumine; to the presence of these three is owing the slight acidity and stipticity, which are recognized, after being some time in the mouth.

This water is said to be emetic; and this may be attributed to the sulphate of iron, which, as is known, has this property, and for this cause it is disagreeable to many invalids. Their use should be interdicted to persons whose fibres are sensitive and irritable, but they may be used in indispositions of the stomach, proceeding from relaxation, and in chronic maladies, originating in this way. They are useful for evacuating the

passage, in intermittent fevers. We are assured it produces good effects, taken in small doses, in hemorrhages of all-kinds, and in cases of worms.

§ 372. *Waters of Vietry*, fifteen leagues from Moulins.—There are seven springs; the principal in use furnishes the water distributed over the departments, called *Grand-Grille*; it is peculiarly distinguished by a sort of boiling on the surface, owing to the escape of an elastic fluid, which, in bursting the aqueous vessels containing it, expands in the atmospheric air. The temperature is above that of the atmosphere, and rises to forty degrees. They are limpid, and without sensible smell; the taste is alkaline, but not disagreeable. From the analysis that has been made, there results carbonate of soda in excess, and a small quantity of carbonate of lime. To the first is owing their flavour, and perhaps their action. They are said to be among the best aperient and diuretics, and also tonic, stomachic, and cephalic; it is strongly purgative, when taken at breakfast; it is sometimes recommended in diseases of the kidneys and bladder, in intermittents and paralysis. It is said to be unfavorable to the meagre and delicate, the scorbutic, and those affected with diseases of the breast, and nervous complaints.

### THE ADMINISTRATION OF GOVERNMENT.

§ 373. The ministers, eight in number, procure the execution of the laws, and regulations for the general government. No act of government can take effect without being signed by the minister.

§ 374. *The Grand Judge*, minister of justice.—He holds a distinguished place in the senate and council of state: he presides in the tribunal of *cassation* and of appeals, when government thinks fit. He has an inspection over the tribunal, justices of peace, and the members composing them, with power of revision. He is charged with printing and publish-

ing the laws, decrees, proclamations, and instructions of government to the administrative and judicial authorities; with the regular correspondence between the tribunal, and commissaries of government near the said tribunal; to watch over the administration of justice, generally; to submit to the council of state, the queries proposed to him, relative to judicial proceedings; to regulate the expences incident to the judiciary; to return every twenty-four hours, to the tribunal of cassation, the memoirs, judgments, and procedures, addressed to him from the tribunal; to return the judgments confirmed by the tribunal; the answers of the commissaries of government, on questions of appeals, in maritime cases; the notariat and its coincidences; all that relates to the nomination and appointment of judges, registers of justices and judges, commissaries of government, substitutes, presidents and vice-presidents of tribunals, guardians, registers, and sergeants; with the execution of the laws relative to general police; to the interior tranquility, to the stationary national guard, and to the gens d'armery; all that relates to public order, as police of prisons, house of detention, correction and seclusion, the repression of mendicity and strolling, and the direct correspondence with the prefect of the police of the Seine, and the commissaries-general of police, of the correspondence direct with the prefects of departments and constituted authorities, as to what concerns the higher police; the laws respecting emigrants, &c.

§ 375. *The Minister of the Interior* is charged with the correspondence with the prefects of departments; the support of legal authority, and superintendence of the measures of cantonal assemblies, and of the electoral colleges of the arrondissement; of the nomination of prefects, sub-prefects, mayors and adjuncts; the economy of prisons, and houses of detention, halls of justice, civil hospitals, establishment for the blind, and the deaf and dumb; of the repair and making of roads, bridges, canals, and other public works; mines, minerals and quarries; inland navigation, floatage and haulage; agricul-

ture, drainage, and clearing; of commerce, industry, arts and inventions, fabrics, manufactories, premiums and rewards of industry; public instruction; museums, and other national collections; schools; national festivals; weights and measures; statistics and political economy; territorial productions; the fisheries on the coasts and the sea fishery; and the balance of commerce.

§ 376. *The Minister of the Finances* is vested with the execution of the laws of assessment; apportionment and recovery of direct contributions; of laying indirect contributions; of the coinage; the management and sale of national domains and national forests; the national lottery; the oversight of the measures taken in liquidation of the national debt, and arrears-ages unpaid; the farming of the posts; the mails, custom-houses; and all establishments rendering public monies and accounts; directing the distribution of the funds and payments made by law.

§ 377. *The Minister of the Public Treasury* is vested with, and made responsible for, the administration of the public treasury; of the correspondence thereof; the direction of funds; the liquidation of perpetual and life annuities; of the change; reimbursement, and reinscription of such annuities; the payment of wages, and salaries in arrears; ecclesiastical pensions, and of persons employed in the bureaux; the nomination of the subordinate agents to the First Consul, as paymasters-general, comptrollers, inspectors-general; to return duplicates of the process, in verifying the accounts of receivers, prepared by inspectors-general, to be laid before government, to propose all needful measures.

§ 378. *The Minister of War* is charged with the levying, inspectorship, discipline, and movement, of the land army, artillery, engineers, fortifications, and depots of war; the national gendarmery; all that relates to grade, promotion, rewards, and relief of invalids; of powder and salt-petre.

§ 379. *The Director-Minister* is charged with the general administration and accountability of the war expences, the pay,

rations, furniture, accoutrements, accommodations, hospitals, &c. and the nomination of commissaries of war, and others employed in the hospitals and administration.

§ 380. *The Minister of the Marine* is charged with the raising, inspecting, and disciplining of the naval forces; maritime correspondence, arrangement of rank, promotions, rewards and relief; management of posts and arsenals; provisions and stores for naval service, works in the harbours, the construction, repairs, and arming of vessels; marine hospitals, maritime fisheries, the correspondence with commercial agents in affairs relating to his function; the execution of laws, and the administration of the colonies in the West-Indies, the coast of Africa, or Cape of Good Hope; provisioning, contributions, granting lands; of the interior public force of the colonies and French establishments; the progress of agriculture and commerce; the superintendence of the receipts and expenditures in Asia and Africa.

§ 381. *The Minister of Exterior Relations* is charged with maintaining treaties, political and commercial; rules and conventions of a diplomatic nature with ambassadors, ministers, and others, near foreign powers, and with their agents, at home.

## REVENUE DETAILS.

§ 382. The total of the revenues of France, according to the general statement presented by M. Necker, at the opening of the states general, on the 1st of May, 1789, comprehends the following items, viz:—

## PERMANENT TAXES FOR 1789.

|   |                             |   |   |             |
|---|-----------------------------|---|---|-------------|
| 1 | Objects under farm          | . | . | 115,560,000 |
| 2 | Do. under collectors        | . | . | 28,440,000  |
| 3 | Duties from the Clermontois | . | . | 107,000     |

## REVENUE DETAILS.

|   |  |           |
|---|--|-----------|
| 4 | Supplementary on tobacco and Paris entries | 4,000,000 |
| 5 | The same on duties collected               | 2,000,000 |

      
      
Ls. 150,107,000

|    |   |            |
|----|---|------------|
| 6  | The posts, farmed                             | 12,000,000 |
| 7  | Post offices, farmed                          | 1,100,000  |
| 8  | Duties on cattle at Sceaux and Poissy, farmed | 630,000    |
| 9  | Refineries of sugar, and others, farmed       | 120,000    |
| 10 | Duties at Port Louis, farmed                  | 47,000     |
| 11 | Commutation from maritime Flanders            | 623,000    |
| 12 | General collection of duties and aids         | 50,220,000 |
| 13 | Duties collected from domains and woods       | 50,000,000 |
| 14 | Duties on the royal and private lotteries     | 14,000,000 |
| 15 | Duties from casual revenues                   | 3,000,000  |
| 16 | Duty on the marc d'or, or exchange of offices | 1,500,000  |
| 17 | Duties on powder and salt-petre               | 800,000    |

      
      
Ls. 134,240,000

18 Receipts at Paris, from the provinces taxed by their parliaments, and those taxed as conquered countries, viz:—

|                                 |             |
|---------------------------------|-------------|
| Ordinary imposts and capitation | 110,568,000 |
| Twentieths                      | 46,467,000  |

      
Total 157,035,000

|                                       |           |
|---------------------------------------|-----------|
| Deduction for commissions and charges | 1,380,000 |
|---------------------------------------|-----------|

      
      
Ls. 155,655,000

19 Imposts from the states of—

|                        |           |
|------------------------|-----------|
| Languedoc              | 9,767,250 |
| Bretagne               | 6,611,460 |
| Bourgogne              | 4,128,106 |
| Provence               | 2,892,463 |
| Pau, Bayonne, and Foix | 1,156,658 |

      
      
Ls. 24,556,027



## REVENUE DETAILS.

259

|    |   |           |
|----|---|-----------|
| 20 | Poll tax and twentieths commuted .          | 575,000   |
| 21 | Poll tax and deductions on pensions .       | 6,290,000 |
| 22 | Imposts of a local kind, for fortifications | 575,000   |
| 23 | Profit on coinage . . . . .                 | 500,000   |
| 24 | Do. on the royal forges, annually .         | 80,000    |

            
            
**£s. 8,020,000**

|    |   |           |
|----|---|-----------|
| 25 | From the Commercial Bank .  | 636,000   |
| 26 | Various rents . . . . .   | 180,000   |
| 27 | Annual interest of money loaned to the United States of America . . . . . | 1,600,000 |
| 28 | Annual interest of six millions owing by a German Prince . . . . .        | 300,000   |

            
            
**£s. 2,716,000**

**Total 475,294,027 livres.**

## THE PERMANENT EXPENCES, 1789.

**§ 383.** According to M. Necker these comprehend:—

|   |   |            |
|---|---|------------|
| 1 | The king's household, that of the queen, the children and aunts of the king . | 25,000,000 |
| 2 | Houses of the princes of the blood .  | 8,240,000  |
| 3 | Foreign affairs, leagues, Swiss .   | 7,480,000  |
| 4 | Department of war . . . . .   | 99,160,000 |
| 5 | Marine and colonies . . . . .   | 40,500,000 |
| 6 | Additional recompences and gratuities   | 400,000    |
| 7 | Bridges and roads . . . . .   | 5,680,000  |
| 8 | National studs . . . . .  | 814,000    |

**NOTE.** The total amount of taxes charged on the people of France, according to M. Necker's great work on the finances, amounted to £s. 585,000,000. The difference between this and the foregoing sum may be presumed to arise from expences of collection and unproductive items of taxation.

[TRANS.]

## REVENUE DETAILS.

|    |   |             |
|----|---|-------------|
| 9  | Annuities, permanent and for life . . .   | 162,186,000 |
| 10 | Sundry items of interest . . .  | 41,800,000  |
| 11 | Compensations on financial affairs . . .  | 14,692,000  |
| 12 | Interest and expence of anticipations for<br>the years 1790 and 1791 . . .  | 4,900,000   |
| 13 | Interest on anticipations . . .   | 10,900,000  |
| 14 | Clerical engagements . . .  | 2,500,000   |
| 15 | Sundry indemnities . . .  | 3,255,000   |
| 16 | Pensions . . .  | 29,566,000  |
| 17 | Wages of the council, and allowance to the<br>chancellor, keeper of the seals, and secre-<br>tary of state of the royal house . . . | 3,173,000   |
| 18 | Intendants of Provinces . . .   | 1,495,000   |
| 19 | Police of Paris . . .   | 1,570,000   |
| 20 | Watch and guard of do. . .  | 1,138,000   |
| 21 | Horse guards of do. . .   | 250,000     |
| 22 | Paving of do. . .   | 627,000     |
| 23 | Labour in the quarries about Paris . . .  | 400,000     |
| 24 | Remissions and discharges, and abatements<br>on the 20ths and capitations . . .   | 7,120,000   |
| 25 | Allowance to the receivers, farmers and<br>registers, and expenses of recovery . . .  | 20,094,000  |
| 26 | The five administrators of the royal trea-<br>sury, payers of interest, &c. . .   | 3,753,000   |
| 27 | Bureau of the general administration . . .  | 2,048,000   |
| 28 | Funds reserved for benevolence . . .  | 172,000     |
| 29 | Relief to Dutch refugees . . .  | 880,000     |
| 30 | Grants for the construction of churches . . .   | 2,188,000   |
| 31 | Gifts, alms, &c. . .  | 3,038,000   |
| 32 | Charitable institutions . . .   | 1,896,000   |
| 33 | Beggars . . .   | 1,144,000   |
| 34 | Bounties to trade . . .   | 3,864,000   |
| 35 | Expenses in mining . . .  | 90,000      |
| 36 | Royal garden . . .  | 130,000     |
| 37 | Royal library . . .   | 167,000     |

# REVENUE DETAILS.

187

|   |           |
|---|-----------|
| 38 Universities, academies, and colleges .  | 930,000   |
| 39 Exemption passports from the duties of the<br>royal marine, and diplomatic corps | 400,000   |
| 40 Maintenance of the navy . . .  | 1,900,000 |
| 41 Expences chargeable to the produce of forests                                    | 500,000   |
| 42 Expences of criminal procedures .  | 3,180,000 |
| 43 Ditto (various) in the provinces .   | 4,500,000 |
| 44 Ditto unforeseen . . . . .   | 5,000,000 |

Total general 531,444,000

|                              |             |
|------------------------------|-------------|
| Results—Permanent expences . | 531,444,000 |
| Permanent Revenues .         | 475,294,027 |

Annual deficit, 1st May, 1789 . Fr. 56,149,973

The statement of the revenues of the republic, year eleven,  
is as follows, viz:—

|   |             |
|---|-------------|
| Balance of surplus revenue, for the year X  | 2,000,000   |
| Taxes from real estate, from the 108 departments  | 220,000,000 |
| Taxes on moveables, personal, and sumptuary   | 32,800,000  |
| Additional per centage on both items paid into<br>the public treasury, for the liquidation of the<br>permanent expences of the administration<br>and the judiciary in the departments | 15,983,000  |
| Doors and windows . . . . .   | 16,000,000  |
| Patents . . . . .   | 17,500,000  |
| Royal duties from registers and domains com-<br>prising the net revenue of national woods, in<br>the 108 departments . . . . .  | 190,000,000 |
| Custom houses . . . . .   | 40,000,000  |
| The post office . . . . .   | 11,000,000  |
| National lottery . . . . .  | 12,000,000  |
| Salines . . . . .   | 3,500,000   |
| Justices' and recorder's surety money .   | 4,000,000   |

## REVENUE DETAILS:

|                         |                                       |
|-------------------------|---------------------------------------|
| Receipts, miscellaneous | 4,717,000                             |
|                         | <u>Fr. 569,500,000</u>                |
| Receipts abroad         | 20,000,000                            |
|                         | <u>Total general, Fr. 589,500,000</u> |

The expenses for the same year, (eleven) are as follows,  
viz:—

## Permanent debt, viz:—

|                        |                   |
|------------------------|-------------------|
| To public creditors    | 39,570,918        |
| To the discount office | 1,272,055         |
| Life annuities         | 19,986,674        |
|                        | <u>60,829,647</u> |

## The six new departments, viz:—

|                 |                  |
|-----------------|------------------|
| Permanent debts | 2,677,277        |
| Life annuities  | 516,558          |
|                 | <u>3,193,835</u> |

## General expences of service, viz:—

|  |            |
|--|------------|
| Ministry of the grand judge, minister of justice | 23,318,730 |
| Ministry of exterior relations                   | 7,000,000  |

## Ministry of the interior, viz:—

|                              |                   |
|------------------------------|-------------------|
| Ordinary service             | 17,000,000        |
| Extra do.                    | 22,500,000        |
| Surplus expence of last year | 7,610,000         |
|                              | <u>47,110,000</u> |

## Ministry of the finances, viz:—

|  |            |
|--|------------|
| Ordinary service   | 29,047,788 |
| Reimbursement of temporary loans<br>to the discount office | 5,000,000  |

## THE ARMY.

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|                                 |             |             |
|---------------------------------|-------------|-------------|
| Interest on temporary loans     | 2,000,000   |             |
| Pensions                        | 20,000,000  |             |
|                                 | <hr/>       | 56,047,788  |
|                                 |             | <hr/>       |
| Ministry of the public treasury | .           | 6,000,000   |
|                                 |             | <hr/>       |
| Ministry of war                 | 153,000,000 |             |
| Administration of war           | 90,000,000  |             |
|                                 | <hr/>       | 243,000,000 |
|                                 |             | <hr/>       |
| Ministry of the marine, viz:—   |             |             |
| Ordinary service                | 70,000,000  |             |
| Extra do.                       | 56,000,000  |             |
|                                 | <hr/>       | 126,000,000 |
|                                 |             | <hr/>       |
| Expences of negotiations        | .           | 9,000,000   |
|                                 |             | <hr/>       |
| Funds reserved                  | .           | 8,000,000   |
|                                 |             | <hr/>       |

General and total expences, 589,500,000 francs.

## THE ARMY.

§ 384. The army is formed by voluntary enlistments, or by means of military conscription; but when the country is declared to be in danger, all its citizens are called to its defence, according to the mode fixed by the law. Besides, the legislature, on the call of government, may appoint, by a special law, the number of conscripts to be called into service. This number is reckoned from the deficiency of the army, and enrolled volunteers.

The volunteers receive no bounty on entrance, and are held to serve, in time of peace, four years in the land service, and in time of war, till the general discharge. They may select the corps they are to serve in, provided they are qualified as to height and other requisites.

The military conscription embraces all from twenty to twenty-five years of age. The conscripts are divided into five classes; each class comprizing those of the same year. The first class is composed of the French who have completed their twentieth year. The second class, of those who have completed their twenty-first year; and so of the third, fourth, and fifth classes, respectively. The second class are not called for until the first is actually in service, and so in sequence, class after class. The conscripts receive no pay except when in actual service. The marching conscripts are formed into two classes; in the first are comprized those who are destined to recruit the army on the peace establishment; in the second, those only who are to make up the war complement, if necessary.

The number of conscripts, from each department, is fixed by law.

The reserve is collected and drilled at convenient seasons. They cannot quit the department without permission of the recruiting officer. When in the field for exercise, they have the same pay and rations as other troops.

All subalterns and soldiers, who, having served ten years, enlist five years more, shall be advanced a franc per month. Those who, at the end of fifteen years, contract for five years additional, receive a franc and half per month advance. Those who, at the end of twenty years, equally engage for five years more, receive two francs per month additional. At the end of twenty-five years, they receive three francs, as long as they remain in the corps. After twenty-five years service, they become members, in virtue thereof, of the legion of honour.

## INFANTRY

§ 385. Is composed of two distinct parts, of the line, and the light infantry; the first to be considered as a moving battery, vomiting an irresistible fire. It is particularly destined to combat in line. The second, placed in front, on the flanks, in woods, villages, broken grounds, works and posts apart, and all the exterior service, of guarding communications, &c.

The composition of the infantry of the line, is of 112 demi brigades, 93 of whom is of three battalions, and 19 of two battalions.

Each demi brigade of infantry of the line is designated by numbers from 1 to 112. It is so with each battalion of a demi brigade.

Each battalion is composed of nine companies, one of grenadiers, and eight of fusileers. Each company of grenadiers is composed of three officers, and eighty privates, corporals, grenadiers and drummers as follows :—

|              |                           |
|--------------|---------------------------|
| 1 captain    | 1 sergeant major          |
| 1 lieutenant | 4 sergeants               |
| 1 2d do.     | 1 quarter master corporal |
| 3 officers   | 8 corporals               |
|              | 64 grenadiers             |
|              | 2 drummers                |
|              | 80 privates               |
|              | <hr/>                     |

Each company of fusileers is composed of three officers and 120 privates, viz.—

|              |                           |
|--------------|---------------------------|
| 1 captain    | 1 serjeant major          |
| 1 lieutenant | 4 sergeants               |
| 1 2d do.     | 1 quarter master corporal |
|              | 8 corporals               |
| 3 officers   | 104 fusileers             |
|              | 2 drummers                |
|              | <hr/>                     |
|              | 120                       |
|              | <hr/>                     |

The companies are designated by numbers from 1 to 8. Each company of grenadiers and fusileers, is divided into two sections; the command and details of each are particularly charged to the lieutenant and sub-lieutenant, under the captain's authority, who is himself charged with the command and details of instruction, discipline, and readiness of the company. Each section is divided into two subdivisions, each commanded by a sergeant, and each subdivision into two squads, each commanded by a corporal. The soldiers are mixed in squads, so that the old and new may be mingled, and a drummer to each section. Each battalion has a standard, carried by the oldest sergeant major. Thus, a demi brigade of the line—

*Staff Officers.*

|                               |   |   |       |             |
|-------------------------------|---|---|-------|-------------|
| Chief of brigade              | . | . | 1     |             |
| Chiefs of battalion           | . | . | 4     |             |
| Quarter-master treasurer      | . | . | 1     |             |
| Adjutant major                | . | . | 3     |             |
| Surgeon                       | . | . | 3     |             |
|                               |   |   | <hr/> | 12          |
| Sub-adjutants                 | . | . | 3     |             |
| Drum major                    | . | . | 1     |             |
| Corporal drummer              | . | . | 1     |             |
| Musicians (including a chief) | . | . | 8     |             |
| Master tailor                 | . | . | 1     |             |
| Master shoemaker              | . | . | 1     |             |
| Master guetre maker           | . | . | 1     |             |
| Master armorer                | . | . | 1     |             |
|                               |   |   | <hr/> | 17          |
| Total of the staff            | . | . | .     | <hr/> 12 17 |

*Battalions.*

|                 |   |   |       |    |
|-----------------|---|---|-------|----|
| Captains        | . | . | 27    |    |
| Lieutenants     | . | . | 27    |    |
| Sub lieutenants | . | . | 27    |    |
|                 |   |   | <hr/> | 81 |



|                             |            |
|-----------------------------|------------|
| Sergeant major . . . .      | 27         |
| Sergeants . . . .           | 108        |
| Quarter master corporal . . | 27         |
| Corporals . . . .           | 216        |
| Grenadiers . . . .          | 192        |
| Fusileers . . . .           | 2496       |
| Drummers . . . .            | 54         |
|                             | <hr/> 3120 |

|           |      |
|-----------|------|
| Officers. | Men. |
| 93        | 3157 |

Full complement of a demi brigade  
of three battalions . . . .

3280 men.

The light infantry is composed of 31 demi brigades, of three battalions. They are organized as infantry of the line; the same staff composition as to officers, sub officers, and privates; the company of carabineers is in the light infantry, composed as that of the grenadiers of the line, and receives the same pay.

The appointments and pay of the officers, sub officers and soldiers of demi brigades of infantry of the line, and light infantry, are fixed as hereafter mentioned. In each demi brigade, the appointments of captains are divided into three classes: there are three of the first, twelve of the second, and twelve of the third. The lieutenants into two equal classes. Each is classed according to seniority.

| PAY.—Officers, viz.—         |          |    |    | fr. | cent. |
|------------------------------|----------|----|----|-----|-------|
| Chief of brigade . . . .     | per diem | 13 | 88 | 8-9 |       |
| Chief of battalion . . . .   |          | 10 |    |     |       |
| Adjutant major . . . .       |          | 5  | 55 | 5-9 |       |
| Quarter master . . . .       |          | 3  | 33 | 1-3 |       |
| Surgeon major, 1st class . . |          | 4  | 16 | 2-3 |       |
| do. 2d class . . . .         |          | 3  | 47 | 2-9 |       |
| Captain, 1st class . . . .   |          | 6  | 66 | 2-3 |       |
| do. 2d class . . . .         |          | 5  | 55 | 5-9 |       |

|                                 | fr. | cent.  |
|---------------------------------|-----|--------|
| Captain, 3d class . . . . .     | 5   |        |
| Lieutenant, 1st class . . . . . | 3   | 47 2-9 |
| do. 2d class . . . . .          | 3   | 05 5-9 |
| Sub lieutenant . . . . .        | 2   | 77 7-9 |

*Privates attached to the Staff, viz.—*

|                               |   |    |
|-------------------------------|---|----|
| Sub adjutant . . . . .        | 1 | 60 |
| Drum major . . . . .          |   | 80 |
| Corporal drummer . . . . .    |   | 55 |
| Musician . . . . .            |   | 55 |
| Master tailor . . . . .       |   | 30 |
| Master gaiter maker . . . . . |   | 30 |
| Master cordwainer . . . . .   |   | 30 |
| Master armourer . . . . .     |   | 30 |

*Grenadiers, viz.—*

|                                   |  |    |
|-----------------------------------|--|----|
| Sergeant major . . . . .          |  | 85 |
| Sergeant . . . . .                |  | 72 |
| Quarter master corporal . . . . . |  | 72 |
| Corporal . . . . .                |  | 50 |
| Grenadier or carbinier . . . . .  |  | 35 |
| Drum . . . . .                    |  | 45 |

*Fusileers, viz.—*

|                                   |  |    |
|-----------------------------------|--|----|
| Sergeant major . . . . .          |  | 80 |
| Sergeant . . . . .                |  | 62 |
| Quarter master corporal . . . . . |  | 62 |
| Corporal . . . . .                |  | 45 |
| Fusilier . . . . .                |  | 50 |
| Drum . . . . .                    |  | 40 |

*Ranks and Functions.—*

The quarter master corporal ranks as first corporal; he is under command of all the sergeants of the company, and com-

mands all the corporals. The quarter master corporal is not attached to any particular section; he attends to keeping the roll, making statements, and lodging the company. Each sergeant commands by order of the lieutenant attached to the section, one of the two subdivisions composing it.

The sergeant major of each company, is not attached particularly to any section: he does no duty as sergeant, but is charged with all the details of service, discipline, accountability, under the orders of the officers of the company.

Each lieutenant and sub lieutenant under a captain's authority, is charged with the command and detail of the section to which he is attached.

Each captain is charged with the command and details of instruction, police, discipline, and accountability of his company.

Each battalion is commanded by a chief of battalion; but the command of the first, devolves upon the last chief of battalion, and the oldest in service, take the second and third. In each demi brigade there is a chief of battalion specially charged with the arrangements, police, and discipline of the demi brigade.

The corporal drummer commands all the drums, under the authority of the drum major; the drum major has the rank of sergeant major, and commands in that quality, musicians as well as drummers.

The authority of the drum major over the drums, does not obstruct the authority of the officers and sub officers of companies, of which they make part.

The adjutants, sub officers have the rank of first sub officers; under this title, they command all the sub officers, and superintend the details of service, the discipline and police of the demi brigade, under the authority of the superior officers and adjutant majors..

The adjutant majors are charged, under the immediate

orders of the superior officers, with all the details of instruction, manœuvres, discipline, and police of the demi brigade.

The chief of the demi-brigade, exercises in his corps, under the inspection of the general officers, of the corps, the power and authority attributed by the regulations of police, the discipline and administration of each corps, and he is responsible to the general officers, for the instruction of officers, sub-officers, and soldiers of his demi-brigade.

#### CAVALRY.

§ 386. The strength of the cavalry, as well as that of the infantry, is composed of two distinct parts—cavalry of the line and light cavalry. The first ought to be considered as an imposing mass, the irresistible shock of which should overturn every thing opposed to it: it is particularly qualified to combat in line. The light cavalry, placed in front, on the flanks, in the woods, in the villages, is more particularly charged with exterior service, to maintain the points, to harass the enemy on his march, to capture convoys, and watch his movements, &c.

The cavalry of the line is composed of twenty regiments; two of them are carabiniers, eight of cuirassiers, and ten of cavalry. Each of these regiments is formed of four squadrons. The regiments of carabiniers are termed first and second; the cuirassiers by numbers, one to eight, and the cavalry generally one to ten. It is the same with each regimental squadron. Each squadron is composed of two companies, and each company of three officers and 83 sub-officers, brigadiers, carabiniers, cuirassiers, or cavaliers, viz:—

|                  |                                  |
|------------------|----------------------------------|
| 1 captain        | 1 marshal gr. mr. in chief,      |
| 2 lieutenants    | 2 deputy marshals                |
| 1 sub-lieutenant | 1 brigadier for. mr.             |
|                  | 4 brigadiers do.                 |
|                  | 74 horsemen, including a farrier |
|                  | 1 trumpeter                      |

The companies are designated by numbers from one to eight, in each of the regiments of carabiniers, cuirassiers, and cavalry. In each company of cuirassiers and cavalry, there is a light company, similar to the grenadiers of infantry, and enjoy the same advantages—Thus the effectives will appear, viz:—

*Staff.*

|                       |   |   |   |       |   |
|-----------------------|---|---|---|-------|---|
| Chief of brigade      | . | . | . | 1     |   |
| Chief of squadron     | . | . | . | 4     |   |
| Q r. mr. treasurer    | . | . | . | 1     |   |
| Adjutant major        | . | . | . | 2     |   |
| Surgeon major         | . | . | . | 1     |   |
|                       |   |   |   | <hr/> | 9 |
| Adjutant sub-officers | . | . | . | 2     |   |
| Brigade trumpet       | . | . | . | 1     |   |
| Veterinarian          | . | . | . | 1     |   |
| Master saddler        | . | . | . | 1     |   |
| Master swordarmorer   | . | . | . | 1     |   |
| Master tailor         | . | . | . | 1     |   |
| Master boot-maker     | . | . | . | 1     |   |
| Master breeches-maker | . | . | . | 1     |   |
| Total of the staff    |   |   |   | <hr/> | 9 |

*Squadrons.*

|                         |   |   |   |       |     |
|-------------------------|---|---|---|-------|-----|
| Captains                | . | . | . | 8     |     |
| Lieutenants             | . | . | . | 8     |     |
| - lieutenants           | . | . | . | 8     |     |
|                         |   |   |   | <hr/> | 24  |
| Marshals q r. mr.       | . | . | . | 8     |     |
| Sub do. do.             | . | . | . | 16    |     |
| Brigade for. mrs.       | . | . | . | 8     |     |
| Brigadiers do.          | . | . | . | 32    |     |
| Cuirassiers, or cavalry | . | . | . | 592   |     |
| Trumpets                | . | . | . | 8     |     |
|                         |   |   |   | <hr/> | 664 |

Total force of the squadron, officers and soldiers 33 673

## LIGHT CAVALRY.

The light cavalry is composed of fifty-eight regiments, twenty-one of whom are dragoons, twenty-four of chasseurs, and thirteen of hussars. Each regiment is composed of four squadrons. They are designated by numbers, as follows:—the regiments of dragoons, from one to twenty-one; the chasseurs, from one to twenty-four; the hussars from one to thirteen. Each squadron is composed of two companies, and each company of four officers and 112 sub-officers, brigadiers, dragoons, chasseurs or hussars, and trumpeters, as follows, viz:—

1 captain

1 lieutenant

2 sub-lieutenants

---

4 officers

---

1 marshal qr. mr. in chief

4 do. do. sub.

1 brigade do. foragemaster

8 do. do. sub.

96 dragoons, chasseurs, or hussars, including a mr. farrier

2 trumpeters

---

112 subalterns, &c.

---

The companies are numbered from one to eight. Each company is divided into sections and squadrons, as in the regiments of heavy cavalry. In each regiment of light cavalry, there are two standards, carried by the oldest qr. mr. marshals in chief.

There is also a light company in each of the regiments of light cavalry, as well as in the cavalry of the line.—So the effectives stand thus, viz:—

*Staff Officers,*

|                    |   |   |   |   |                  |
|--------------------|---|---|---|---|------------------|
| Chief of brigade   | . | . | . | 1 |                  |
| Chiefs of squadron | . | . | . | 4 |                  |
| Qr. mr. treasurer  | . | . | . | 1 |                  |
| Adjutant majors    | . | . | . | 2 |                  |
| Surgeons           | . | . | . | 2 |                  |
|                    |   |   |   |   | Officers — 10    |
| Adjutants (sub)    | . | . | . | 2 |                  |
| Brigadier trumpet  | . | . | . | 1 |                  |
| Veterinarian       | . | . | . | 1 |                  |
| Master saddler     | . | . | . | 1 |                  |
| Master cutler      | . | . | . | 1 |                  |
| Master tailor      | . | . | . | 1 |                  |
| Master boot-maker  | . | . | . | 1 |                  |
|                    |   |   |   |   | Sub-officers — 8 |
|                    |   |   |   |   | Total staff 10 8 |

*Squadrons.*

|   |   |   |   |     |          |
|---|---|---|---|-----|----------|
| Captains                                  | . | . | . | 8   |          |
| Lieutenants                               | . | . | . | 8   |          |
| Sub-lieutenants                           | . | . | . | 16  |          |
|   |   |   |   |     | 32       |
| Qr. mr. marshal in chief                  | . | . | . | 8   |          |
| do. do. sub.                              | . | . | . | 32  |          |
| Brigade forage masters                    | . | . | . | 8   |          |
| Brigadiers do.                            | . | . | . | 64  |          |
| Dragoons, chasseurs or hussars            | . | . | . | 768 |          |
| Trumpets                                  | . | . | . | 16  |          |
|   |   |   |   |     | 896      |
|   |   |   |   |     | off. men |
| Complement of a regiment of light cavalry |   |   |   |     | 42 90½   |

RANK AND PAY.

§ 287. The rank and pay of the officers, sub-officers, carabiniers, cuirassiers, cavaliers, dragoons, chasseurs, and hussars,

are fixed per diem as follows:—In each regiment of cavalry, the captains are divided into two classes; there are three of the first, the rest are of the second. Those of the lieutenants are also divided into two equal classes. They are placed in the classes according to seniority.

*Officers.*

|                              | <i>fr.</i> | <i>cent.</i> |
|------------------------------|------------|--------------|
| Chief of Brigade . . .       | 15         | 27 7-9       |
| Chief of squadron . . .      | 11         | 11 1-9       |
| Qr. mr. treasurer . . .      | 3          | 89 8-9       |
| Adjutant major . . .         | 6          | 38 8-9       |
| Surgeon major, first . . .   | 4          | 16 2-3       |
| ditto second . . .           | 3          | 47 2-9       |
| Captain first class . . .    | 6          | 94 4-9       |
| do. second . . .             | 6          | 38 8-9       |
| Lieutenant first class . . . | 4          | 62           |
| do. second . . .             | 3          | 47           |
| Sub lieutenant . . .         | 3          | 19           |

## CARABINIERS AND CUIRASSIERS.

*The Staff.*

|                             | <i>fr.</i> | <i>cent.</i> |
|-----------------------------|------------|--------------|
| Adjutant sub officer . . .  | 1          | 77           |
| Brigade trumpet . . .       | 1          | 10           |
| Veterinarian . . .          |            | 90           |
| Master saddler . . .        |            | 90           |
| Master cutler . . .         |            | 90           |
| Master tailor . . .         |            | 38           |
| Master boot maker . . .     |            | 38           |
| Master breeches maker . . . |            | 38           |

*Companies.*

|                                   |   |    |
|-----------------------------------|---|----|
| Chief qr. mr. marshal . . .       | 1 |    |
| do. . .                           |   | 90 |
| Brigade forage master . . .       |   | 90 |
| Brigadiers do. . .                |   | 52 |
| Carabiniers and cuirassiers . . . |   | 38 |
| Trumpeter . . .                   |   | 75 |



CAVALIERS, DRAGOONS, CHASSEURS, HUSSARS, ATTACHED TO  
THE STAFF.

|                       |   |   |   |   |    |
|-----------------------|---|---|---|---|----|
| Adjutant sub officer  | . | . | . | 1 | 60 |
| Brigade trumpet       | . | . | . |   | 85 |
| Veterinarian          | . | . | . |   | 78 |
| Master saddler        | . | . | . |   | 78 |
| Master cutler         | . | . | . |   | 78 |
| Master tailor         | . | . | . |   | 33 |
| Master breeches maker | . | . | . |   | 33 |
| Master boot maker     | . | . | . |   | 33 |

*Light Companies.*

|                                 |   |   |   |  |    |
|---------------------------------|---|---|---|--|----|
| Marshal quarter master in chief | . |   |   |  | 93 |
| do. do.                         | . | . | . |  | 80 |
| Brigade for a quarter master    | . | . |   |  | 80 |
| Brigadier                       | . | . | . |  | 52 |
| Horseman                        | . | . | . |  | 38 |
| Trumpet                         | . | . | . |  | 75 |

*Companies.*

|                                 |   |   |   |  |    |
|---------------------------------|---|---|---|--|----|
| Marshal quarter master in chief | . |   |   |  | 83 |
| do. do.                         | . | . | . |  | 75 |
| Brigadier for a quarter master  | . | . |   |  | 75 |
| Brigadier                       | . | . | . |  | 47 |
| Horseman                        | . | . | . |  | 33 |
| Trumpet                         | . | . | . |  | 70 |

PROMOTION.

§ 388. Among all the troops of the republic, except in a few special cases, hereafter indicated, promotion takes place in three ways, viz.—

One third by a seniority of rank;

One third by election;

One third by appointment of government.

In the infantry, the rank by seniority pervades all the demi brigade. The elective principle is confined to the battalion only. The government nominates throughout the whole demi brigade. In the cavalry, seniority, election, and nomination, pervade throughout the whole regiment.

Commencing with seniority of rank; on an equal claim between two candidates, the place belongs to him who has served longest in the next lowest grade; and if still equal in this respect, the most aged obtains preference.

The service performed in the national guard non-paid, is the only basis of promotion in rank.

When a chief of brigade is required, the place is always filled by the senior chief of the three, of the battalion of the demi brigade. In the cavalry, it belongs to the oldest chief of the regimental squadron.

The quarter master treasurer of the demi brigades, adjutant majors, adjutant sub officers, drum majors, and corporal drummers, are nominated by the council of administration for the demi brigade, and may be chosen indifferently from the three battalions; the quarter master among the sub officers, sergeant majors; adjutant majors, among the lieutenants; the adjutants sub officers, among the sergeants; and the corporal drummer, among the drummers of the three battalions.

The quarter masters have the grade of sub lieutenants. Once nominated, they may not take a higher rank, except by seniority; they are not counted in the rank and file; they always form part of the staff, and are only titulars of the grade, into which their seniority has carried them, and they merely receive the pay of it. But when, by seniority, they obtain the rank of captain, they are then bound to assume the command; but if they prefer continuing their services as quarter masters, they are held to service in that quality, nor can they seek any further advancement afterwards. When the place of drum major is vacant, it is filled by the council of administration.

In the cavalry, the quarter master treasurer, having the rank of lieutenant; the adjutants sub officers, trumpet major, having the rank of marshal quarter master and brigade trumpet, are at the nomination of the council of administration of that regiment; the quarter master is taken from among the sub lieutenants; the adjutants sub officers, from among the marshal quarter masters; and the brigadier trumpeter, among the trumpeters of the regiment. The trumpet major is appointed by the council of administration. The quarter masters of cavalry, belong to the grade of captain exclusively, on the same conditions as the infantry.

The adjutant majors, adjutant sub officers, drummers, and trumpet majors, corporal drummer, and brigadier trumpeter, forming part of the staff, as well in the infantry as in the cavalry, are not enumerated in the rank and file of the companies; but they may fill superior grades in the manner following: they are electors, and also eligible by election.

The adjutant majors lieutenants cannot take the grade of captain but in two ways, by seniority, and the nomination of the government, in place of the mode by election. They arrive also at the rank of captain, after eighteen month's service as adjutant major, and in all cases they take the command of the first vacant company. The adjutants sub officers, drummers, and trumpet majors, corporal drummer, and brigade trumpeter, arrive at the grades above them, according to the three modes above; they are eligible, as electors, or to be elected. The adjutant sub officers ought to pass to their respective companies, when named as sub lieutenants.

The corporal drummer, whom seniority or choice has placed in the rank of sergeant of a company, may choose between his employ and new rank; but if he prefer to remain as corporal drummer, he is bound to serve in that rank till seniority, election, or the nomination of government, raises him to the rank of sub lieutenant; he shall nevertheless receive

sergeant's pay, as by having that grade he is an elector, and eligible, in that capacity, to rise to a superior grade.

The master tailors, guetre makers, shoemakers, and armourers, of infantry; veterinarian, boot maker, saddler, and tailor, in the cavalry, are nominated by the council of administration.

They enjoy the rank and pay of their respective grades, but they are not admitted to serve in them, until they have formed others fit to replace them, which is ascertained by the council of administration; nor can they take a higher grade till they have served one year in their respective functions. The corporals and brigadiers are always named by election; but the choice takes place in the company wherein the vacancy is, and the soldiers of the company only, are electors.

When a corporal's place is vacant, all the soldiers of the company collect at the quarters of the chief of battalion, and nominate by an absolute majority of suffrages, the six soldiers best qualified, in their opinion, to fill the station of corporal, and knowing how to read and write.

In the cavalry, the soldiers assemble to choose a brigadier, at the quarters of the chief of the squadron, and proceed as in the infantry.

As soon as the nomination is made, a list is formed of the six soldiers elect, and signed by four of the most aged, is transmitted to the chief of battalion or squadron, by the president of the meeting, spoken of hereafter. The chief of battalion convokes all the corporals of the battalion; who reduce the list to three soldiers.

This being done, and the list of the three soldiers signed and transmitted, as before, to the chief of battalion or squadron, the sergeants and quarter master marshals are convoked, who proceed definitively to the choice of a corporal or brigadier, from the three soldiers on the list above.

... The result of the scrutiny, signed by four of the most aged,

is immediately carried to the chief of battalion or squadron, and the person elect is recognized corporal or brigadier, and so received.

The appointment of sergeants in the infantry, and of marshals quarter masters in the cavalry, take place only by election and seniority.

When a sergeant's place is vacant, all the corporals of the battalions unite at the place of the sitting of the administration, and name, by ballot, the six corporals they think proper for advancement. In the cavalry, when there is a vacancy of mareschal quarter master, all the brigadiers of the regiment assemble, and proceed to the election of six among themselves, to fill the place. The list of the six elect, is carried to the chief of battalion or squadron, who assembles, first, all the sergeants of battalion, and, second, all the marshals quarter masters of the regiment, to reduce the number to three; and afterwards, the sub-lieutenants designate among the three the person to advance.

When the place of corporal quarter master becomes vacant in a company, the sergeant major and other sergeants present to the captain three corporals, judged to be the best qualified, chosen from among all the corporals of battalion; the captain chooses one of the three.

The same mode is taken in the election of a brigade quarter master. When the place of sergeant major is vacant in a company of infantry, or the place of marshal quarter master in chief, in a company of cavalry, the captains name the sergeants or marshal quarter master, whom they judge the most capable; they choose them from among all the sergeants of battalion, or all the marshals quarter masters of the regiment, confirmed by the council of administration of their corps.

If the person presented is not agreed upon by the council, the captain shall present another in twenty-four hours.

When a sub lieutenant is to be elected, all the sub lieutenants assemble, whether infantry or cavalry, and according to

the above forms, to a choice, first, for three sergeants of the battalion; second, for three marshal quarter masters, in regiment; the result is presented to the lieutenants, who choose one to fill the vacancy. The same order is observed in choosing a lieutenant.

In choosing a captain by election, the captains name, equally, three lieutenants, by ballot, from an absolute majority, and afterwards the chief of the demi brigade, and chiefs of battalion of infantry, and the chiefs of brigade, and the chiefs of squadron in the regiments of cavalry, choose one to fill the vacancy. If it happens, in the three attempts at balloting, that none of them have an absolute majority of votes, the senior lieutenant shall take the place.

Every officer or sub officer who, in elections to superior grades, has been twice returned in the number of the three presented for the vacancy, and not chosen, has a right to the first vacancy, if presented a third time, he is named on the spot without ballot.

When the place of chief of battalion is to be filled by election, the general of brigade, the chief of the demi brigade wherein the place is vacant, and the other two chiefs of battalion, name three captains, taken from the whole demi brigade, by ballot, and by a majority of three votes out of four. If at the third ballot, they divide the votes, whether by one or more, the seniority of rank or age decides, conformably to the dispositions prescribed for the election of captains.

As soon as this selection is made, it is signed by four voters; the general of brigade subjoins a statement of the three candidates, and addresses them by duplicates to the general of division, to which he adds his opinion, and transmits them to government. The government commissions one. When a captain, having been twice chosen but not commissioned by government, is elected a third time, he is to be commissioned as a matter of course.

In the cavalry, when the place of chief of squadron is va-

rant, and to be filled by election, the general of brigade, the chief of brigade commanding the regiment, and the chiefs of squadron, nominate, (as in the infantry) three captains from the entire regiment, whose names being transmitted to the general of division, with his observations added, are transmitted to government, which commissions one of them.

## ARTILLERY.

§ 389. This force is designated as field artillery and besieging artillery. The former, besides being of the proper calibre, should be light and easily handled.

The second sort is employed in the attack and defence of places, to be used on the ramparts, or on the enemy's approach. But this distinction of guns causes no distinction in the troops attached to them.

This force is at present composed of eight regiments of foot artillery, six regiments of horse artillery, fifteen companies of workmen, eight battalions of artillery train, two battalions of pontooniers, fourteen companies of veteran cannoneers, and 128 companies of cannoneers-coast-guards.

Each regiment of foot artillery is composed of two battalions, and the regiments designated by numbers. Each battalion is composed of eleven companies, and each company of five officers, and 111 sub officers, corporals, cannoneers, and drummer, as follows, viz.—

|                      |                           |
|----------------------|---------------------------|
| 1 captain commandant | 1 sergeant major          |
| 1 captain second     | 6 sergeants               |
| 1 lieutenant first   | 1 corporal quarter master |
| 2 do. second         | 6 corporals               |
| —                    | 6 artificers              |
| 5 officers           | 42 cannoneers, first      |
| —                    | 48 do. second             |
| —                    | 1 drummer                 |

111 sub officers, &c.

The companies are designated by numbers, from one to eleven. Each company is divided into sections and squads, as those of the demi brigade of infantry.

The first and second cannoneers are placed by seniority, in the six squads, so that the oldest shall be in the first, and so onwards. The drum is attached to the first. Each battalion has a standard, carried by the oldest sergeant major. The effectives of a regiment are—

*The Staff.*

|                          |   |   |   |   |   |
|--------------------------|---|---|---|---|---|
| Colonel                  | . | . | . | . | 1 |
| Major                    | . | . | . | . | 1 |
| Chief of battalion       | . | . | . | . | 5 |
| Quarter master treasurer | . | . | . | . | 1 |
| Adjutant major           | . | . | . | . | 2 |
| Surgeon major            | . | . | . | . | 1 |

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Officers 11

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|                       |   |   |   |   |   |
|-----------------------|---|---|---|---|---|
| Adjutant sub officers | . | . | . | . | 4 |
| Drum major            | . | . | . | . | 1 |
| Corporal drummer      | . | . | . | . | 1 |
| Chief artificer       | . | . | . | . | 1 |
| Musicians (one chief) | . | . | . | . | 8 |
| Master tailor         | . | . | . | . | 1 |
| Master quarter master | . | . | . | . | 1 |
| Master cordwainer     | . | . | . | . | 1 |
| Armourer              | . | . | . | . | 1 |

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Sub officers 19

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*Battalions.*

|                           |   |   |   |       |
|---------------------------|---|---|---|-------|
| Captains, first           | . | . | . | 22    |
| do. second                | . | . | . | 22    |
| Lieutenants, first        | . | . | . | 22    |
| do. second                | . | . | . | 44    |
| Sergeant majors           | . | . | . | 22    |
| Sergeants                 | . | . | . | 132   |
| Corporals quarter masters | . | . | . | 22    |
| Corporals                 | . | . | . | 132   |
| Artificers                | . | . | . | 132   |
| Cannoneers, first         | . | . | . | 924   |
| do. second                | . | . | . | 1,056 |
| Drums                     | . | . | . | 22    |

Total force, officers included, and exclusive  
of the staff . . . .

2,552

The appointments and pay of the officers, sub officers, cannoneers, and drum majors, of regiments of artillery or foot, are fixed per diem as below. The grades of captains and lieutenants are divided into three classes, according to seniority.

*PAY.—Officers, viz.—*

|                                  | fr. | cent. |
|----------------------------------|-----|-------|
| Colonel . . . .                  | 17  | 36    |
| Major . . . .                    | 14  | 17    |
| Chief of battalion . . . .       | 12  | 59    |
| Quarter master treasurer . . . . | 3   | 33    |
| Adjutant major . . . .           | 5   | 55    |
| Surgeon major, first . . . .     | 4   | 16    |
| do. second . . . .               | 3   | 47    |
| Captain, first . . . .           | 6   | 94    |
| do. second . . . .               | 5   | 55    |

|             |        |   |   | fr. | cent. |
|-------------|--------|---|---|-----|-------|
| Captain     | third  | . | . | .   | 5     |
| Lieutenant, | first  | . | . | .   | 4 16  |
| do.         | second | . | . | .   | 3 61  |
| do.         | third  | . | . | .   | 3 5   |

*Persons attached to the Staff.*

|                      |   |   |   |   |      |
|----------------------|---|---|---|---|------|
| Adjutant sub officer | . | . | . | . | 1 05 |
| Drum major           | . | . | . | . | 1 05 |
| Corporal Drummer     | . | . | . | . | 81   |
| Chief artificer      | . | . | . | . | 1 44 |
| Musician             | . | . | . | . | 58   |
| Master tailor        | . | . | . | . | 32   |
| Master guetre maker  | . | . | . | . | 32   |
| Master Cordwainer    | . | . | . | . | 32   |
| Master armourer      | . | . | . | . | 75   |

*Attached to the Company.*

|                         |   |   |   |   |      |
|-------------------------|---|---|---|---|------|
| Sergeant major          | . | . | . | . | 1 44 |
| Sergeant                | . | . | . | . | 98   |
| Corporal quarter master | . | . | . | . | 98   |
| Corporal                | . | . | . | . | 71   |
| Artificer               | . | . | . | . | 51   |
| First cannoneer         | . | . | . | . | 46   |
| Second do.              | . | . | . | . | 37   |
| Drum                    | . | . | . | . | 46   |

*Composition of the Horse Artillery.*

The regiment of horse artillery is composed of six companies, the sixth excepted, which has seven; they are numbered one to six.

Each company is composed of five officers and eighty sub officers, brigadiers, cannoneers, and trumpeters, as follows, viz.—

## THE ARMY.

231

- 1 captain commandant
- 1 second captain
- 1 first lieutenant
- 2 second do.

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5 officers

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- 1 marshal barrack master in chief
- 1 do.
- 1 brigade quarter master
- 1 do.
- 4 artificers
- 32 first cannoneers
- 32 second
- 2 trumpets

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80 sub officers

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Each company is divided into four squads, of eighteen men each, including brigadiers. The effective of a regiment is as follows, viz.—

### *Staff.*

- 1 colonel
- 1 major
- 2 chiefs of squadrons
- 1 quarter master treasurer
- 1 adjutant major
- 1 surgeon major

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7 officers

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**THE ARMY.**

1 adjutant sub officer  
 1 brigade trumpeter  
 1 veterinarian  
 1 master cutler  
 1 master saddler  
 1 master tailor  
 1 master boot maker

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7 sub officers and cannoneers

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*Companies.*

6 captains  
 6 second captains  
 6 first lieutenants  
 12 second do.

---

30 officers

---

6 barrack master chiefs  
 24 do.  
 6 brigade quarter masters  
 24 brigadiers  
 24 artificers  
 192 first cannoneers  
 192 second do.  
 12 trumpets

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480 sub officers and soldiers.

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**RANK AND PAY.**

§ 390. The appointment and pay of officers, sub officers,

brigadiers, cannoneers and trumpeters, of the regiments of light horse artillery, are fixed per diem as follows.—

In each regiment, the captains are divided into two classes equally; and the lieutenants into two; six in the first class, and twelve in the second. They are placed by seniority. The pay is as follows:—

|                                    | <i>fr.</i> | <i>cent.</i> |
|------------------------------------|------------|--------------|
| Colonel . . . . .                  | 18         | 75           |
| Major . . . . .                    | 15         | 13           |
| Chief of squadron . . . . .        | 13         | 61           |
| Quarter master treasurer . . . . . | 3          | 88           |
| Adjutant major . . . . .           | 6          | 38           |
| Surgeon major . . . . .            | 4          | 06           |
| Do. second . . . . .               | 3          | 47           |
| Captains, first . . . . .          | 7          | 77           |
| Do. second . . . . .               | 6          | 38           |
| Lieutenant, first . . . . .        | 4          | 72           |
| Do. second . . . . .               | 4          | 16           |

*Persons attached to the Staff.*

|                                |   |    |
|--------------------------------|---|----|
| Adjutant sub officer . . . . . | 1 | 75 |
| Brigade trumpeter . . . . .    | 1 |    |
| Veterinarian . . . . .         |   | 90 |
| Master saddler . . . . .       |   | 90 |
| Master cutler . . . . .        |   | 90 |
| Master tailor . . . . .        |   | 38 |
| Master boot maker . . . . .    |   | 38 |

*To the Company.*

|                                   |   |    |
|-----------------------------------|---|----|
| Barrack master in chief . . . . . | 1 | 54 |
| Do. . . . .                       | 1 | 8  |
| Brigade quarter master . . . . .  | 1 | 8  |
| Brigadier . . . . .               |   | 81 |
| Artificer . . . . .               |   | 61 |
| First cannoneer . . . . .         |   | 56 |

|                            | <i>fr.</i> | <i>cent.</i> |
|----------------------------|------------|--------------|
| Second cannoneer . . . . . | 47         |              |
| Trumpet . . . . .          | 70         |              |

*Company of Workmen, or Pioneers.*

|                             | <i>Number and pay.</i> |      |
|-----------------------------|------------------------|------|
| First commandant . . . . .  | 1                      | 6 94 |
| Second do. . . . .          | 1                      | 5 55 |
| First lieutenant . . . . .  | 1                      | 4 18 |
| Second lieutenant . . . . . | 1                      | 3 61 |

Officers 4

|                                    |    |      |
|------------------------------------|----|------|
| Sergeant major . . . . .           | 1  | 1 79 |
| Sergeants . . . . .                | 5  | 98   |
| Corporal quarter masters . . . . . | 1  | 98   |
| Corporals . . . . .                | 5  | 88   |
| Masters pioneers . . . . .         | 5  | 83   |
| First pioneers . . . . .           | 20 | 73   |
| Second do. . . . .                 | 20 | 58   |
| Apprentice do. . . . .             | 30 | 48   |
| Drum . . . . .                     | 1  | 46   |

Workmen 88

The workmen are under the orders of the directors and sub directors of arsenals, under the direction of general officers.

**ARTILLERY.—PEACE ESTABLISHMENT.**

Each battalion six companies, as follows—

1 lieutenant commandant

1 sub do. . . . .

2 officers.

- 1 chief barrack master
- 4 Do.
- 1 brigade quarter master
- 5 brigadiers
- 59 soldiers
- 2 master smiths
- 2 drivers
- 2 trumpets

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76 men.

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The effectives of a battalion train of artillery, is as follows, on the peace establishment—

*The Staff.*

- 1 captain commandant
- 1 lieutenant adjutant major
- 1 sub lieutenant quarter master
- 1 adjutant sub officer
- 1 veterinary artist
- 1 trumpet master
- 1 chief of forage
- 1 master saddler
- 1 master cordwainer
- 1 master tailor

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10

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*Companies.*

- 6 lieutenants commandants
- 6 sub lieutenants
- 6 marshal barrack masters
- 24 barrack master
- 6 brigade quarter master

30 brigadiers  
 354 soldiers  
 12 marshal farriers  
 12 harness makers  
 12 trumpets

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468

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#### WAR ORGANIZATION.

§ 391. There is formed in every army a staff of the train of artillery, composed as follows, viz.—A chief of battalion, or squadron of artillery, subdirector of parks inspector general of the train. Two, three, or four captains according to the force of the army, and the extent of ground occupied, taken by preference from among those of the horse artillery, are charged with the inspection of the train. A train-major, with the rank of chief of battalion: he is taken from among the captains of battalions of the train, appointed by the first consul, on the nomination of the minister at war. This officer is replaced in course by another in his battalion; at the peace he shall resume his place of captain commandant, and will preserve his distinctions and appendages as chief of battalion. Four sub-lieutenants, two of them attached to the inspector-general, two to the major; they are taken from the companies, and replaced in the same way, and at the peace rejoin the first vacant companies. A chief veterinary artist. Each of the battalions, after receiving the minister's orders, forms, by the duplication of the six companies, a supplementary battalion, bearing the same number. The staff of the supplementary battalion is made up in the same way, as that of the others, as follows, viz.—

The adjutant majors are named captains commandants of the supplementary battalions. The adjutant majors of each battalion, and in the supplementary battalions, the quarter master treasurers, are named according to the rule of promotion.



The adjutant sub-officer of each supplementary battalion is chosen in the interior, by the commandant of the school, and in the field by the commandant of artillery, on the nomination of the captain commandant of battalion, and the five chief artisans, by the council of administration.

When the battalions of the artillery train, are placed on the peace establishment, the supplementary battalions reenter into the body from which they were extracted.

The officers and sub-officers of supplementary battalions, are named to the first vacancies, according to seniority. Each soldier of the artillery train has charge of two horses.

There is formed in time of war and placed in the rear of the park, a company of pioneers composed thus, viz.—

One sub lieutenant

One marshal barrack master

One brigade quarter master

One squad of harness makers, at the rate of three to the battalion

One master harness maker, barrack master

One squad of pack makers

One master pack maker, barrack master

Pack makers, two to each battalion

One squad of horse sheers, four to each battalion

One marshal barrack master smith

This corps is charged with the making and repairs of harness and pack saddles.

The police is in time of war, and in time of peace. administered by the council of the battalion. The arrangement of the equipage in the army is confided to the administration of the grand park of artillery; it provides for the support of horses and harness, and their replacement. The battalion councils, are charged with details.

The battalion of pontonniers are charged with forming and repairing bridges, for the service of the army, each battalion is composed of eight companies; each company of three officers

and seventy-two sub officers, corporals, pontonniers, workmen, and drummers, as follows—

|                  |                      |
|------------------|----------------------|
| 1 captain        | 1 sergeant major     |
| 1 lieutenant     | 2 sergeants          |
| 1 sub-lieutenant | 1 corporal drummer   |
| <hr/>            | 4 corporals          |
| 3 officers       | 56 pontonniers       |
| <hr/>            | 2 masons             |
|                  | 2 caulkers           |
|                  | 1 carpenter          |
|                  | 1 smith              |
|                  | 1 tinworker          |
|                  | 1 drum               |
|                  | <hr/>                |
|                  | 72 sub-officers, &c. |
|                  | <hr/>                |

There are fourteen companies of veteran cannoneers, especially attached to the service of the maritime coasts. They are thus composed—

|              |                           |
|--------------|---------------------------|
| 1 captain    | 1 sergeant major          |
| 1 lieutenant | 2 sergeants               |
| 2 officers   | 1 corporal quarter master |
| <hr/>        | 4 corporals               |
|              | 39 cannoneers             |
|              | 1 drum                    |
|              | <hr/>                     |
|              | 48 sub officers           |
|              | <hr/>                     |

The entire defence of the coast, and isles adjacent, is entrusted to 128 companies of coast-guards, 28 of which are stationary: they are thus distributed—Bruges 1; Lisle 2; St. Omer 4; Havre 8; Cherbourg 12; Brest 18; Nantes 14; Rochelle 13; Bayonne 1; Perpignan 2; Montpellier 3; Toulon 19; Corsica 3. The stationary companies are—at Belle-isle 5; Ouessant 1; Isle de Groin 2; Isle de Brehat 2; Isle de Bas 1;

Sept-isles 1; Isle Dieu 2; Isle Noirmontier 2; Isle Rhe 4; Isle Oleron 4; Isle Elbe 4.

The rank and file of these companies are 121 each, and amount in total to 15,488.

§ 392. MILITARY EMPLOYMENTS.

|  | <i>Per diem—Fr.</i> | <i>Cent.</i> |
|--|---------------------|--------------|
| First inspector general . . . .                        | 66                  | 66           |
| Colonel director . . . .                               | 17                  | 36           |
| Chief of battalion, sub-directors . . . .              | 12                  | 50           |
| Captains directing first class . . . .                 | 6                   | 94           |
| Do. second class . . . .                               | 5                   | 55           |
| Cadet of artillery . . . .                             | 3                   | 5            |
| Guards of artillery at depots, first class . . . .     | 3                   | 88           |
| Do. second class . . . .                               | 3                   | 33           |
| Guards of artillery at the army, general . . . .       | 5                   | 55           |
| Do. principal . . . .                                  | 5                   |              |
| Do. ordinary . . . .                                   | 4                   | 44           |
| Conductors of artillery in the depots, general . . . . | 3                   | 88           |
| Do. principal . . . .                                  | 3                   | 33           |
| Do. ordinary . . . .                                   | 3                   | 5            |
| Conductors of artillery at the armies, general . . . . | 5                   | 55           |
| Do. principal . . . .                                  | 5                   |              |
| Do. ordinary . . . .                                   | 4                   | 44           |
| Master artificers in the depots, first class . . . .   | 3                   | 38           |
| Do. second class . . . .                               | 1                   | 66           |
| Master artificer to the armies . . . .                 | 4                   | 16           |
| Chief of the workmen in the arsenal . . . .            | 3                   | 88           |

INVALIDS.

§ 393. The benefit of the hotel is confined to officers, sub officers, or soldiers, who have lost one or more limbs, or sight, or have been in actual service thirty years, and are aged sixty.

The vacant places at the national hotel of invalids, and its

accessaries, are granted two-thirds to the military in active service in the line, and the other one-third to national veterans, and pensioners withdrawn from age or infirmity. The military admitted to the national hotel, are lodged, clothed, fed, &c. at public cost, They receive for private use, independent of the public allowance, as follows:—

|                      |   |   |                   |
|----------------------|---|---|-------------------|
| Chief of brigade     | . | . | 50 francs per mo. |
| Chief of battalion   | . | . | 30 do.            |
| Captain              | . | . | 16 do.            |
| Lieutenant           | . | . | 12 do.            |
| Barrack master chief | . | . | 8 do.             |
| Sub-officer          | . | . | 6 do.             |
| Soldiers             | . | . | 5 do.             |

This allowance is paid monthly.

#### LEGION OF HONOR.

§ 394. This legion is formed of a grand council of administration, and of sixteen cohorts, of which each has its particular head quarters. To each cohort is appropriated national property, bearing an annual income of 200,000 francs.

The grand council of administration is composed of seven grand officers; that is, the three consuls and four other members, one of whom is named from amongst the senators, by the senate; another from the legislative corps, by its members; another by the tribunate, from its members; and another by the counsellors of state, from among their own body. The members preserve, during life, the title of grand officers, even after being replaced by a new choice.

The first consul is, of course, chief of the legion, and president of the grand council of administration. Each cohort is composed of—

|     |                |
|-----|----------------|
| 7   | grand officers |
| 20  | commandants    |
| 30  | officers       |
| 350 | legionaries    |

The members are for life. Each grand officer receives 5000 francs; each commandant, 2000 francs; each officer, 1000 francs; each legionary, 250 francs. These allowances are made from the effects appropriated for each cohort. Each individual admitted into the legion, swears, on his honour, to devote himself to the service of the republic; to the preservation of its territory inviolate; to the defence of his government, its laws, and property; to resist, by every means authorised by the law, justice, and reason, every attempt to re-establish the feudal system, to reproduce those titles and qualities, which are its attributes; in fine, to concur with all their power in maintaining liberty and equality.

There is established, at the place of residence of each cohort, a hospital, and apartments, to receive as many of the members as age, infirmities, or wounds, have disabled.

The legion is made up of those who have received arms of honor; those who have rendered important services in the war for liberty; citizens who, by talents, learning, or virtue, have contributed to establish or defend the principles of the republic, and rendered the administration beloved and respected. The grand council of administration nominate the members of the legion. During the ten years of peace after the first institution, the vacated places remain so till the tenth anniversary year is completed; and after, till the fifth. These vacancies are to be filled only, at the end of the first campaign. Nominations are made at the end of each campaign. In time of war brilliant deeds give a title to any grade.

In time of peace, twenty-five years of military service is a requisite qualification: the years of service count double, and each campaign of the last war shall count for four years.

Important services rendered the state, in the legislative, diplomatic, judicial, administrative, or scientific departments, are also titles of admission, provided the person has been enrolled in the national guard at the place of his domicile.

After the first organization is made, none are admitted into

the legion who have not, during twenty-five years, exercised his functions with distinction. After the first organization none can ascend but by consecutive order. The nation is divided into districts for the conscription of sixteen cohorts.

The great council of administration assemble once a month; and an extra sitting in the summer for the purpose of proclaiming new promotions, and receiving the oaths of the new legionaries: this sitting is held in the chief place of the first cohort; Fontainebleau, in the first instance, and afterwards alternately, as much as possible.

At this extraordinary sitting, one of the members of the council pronounces the eulogium of the deceased, in the past year, in the form of a historical notice. The grand council names a grand chancellor, and a treasurer general, who are grand officers. The former has a seat in the grand council, and is depository of the seal. He is to order the register of the names of the members, on the marble tables appointed therefor. He is charged with minutes of councils, preparation of process, and correspondence.

The grand council direct and superintend the administration of the effects of the legion.

### THE MARITIME SYSTEM.

§ 395. Since the art of navigation was first known to Europe, France has always had a formidable marine. In 1066, William, duke of Normandy, surnamed The Conqueror, subjugated England, after effecting his descent with 880 vessels, and a vast number of bateaux.

In the year 1202, under the reign of Philip Augustus, the French fleet which departed for the conquest of the Holy Land, consisted of 250 sail, in which there were 60 galleys, 120 light vessels, 70 clump built vessels; and this great fleet was termed *The World*.

In 1690, the naval force commanded by De Tourville, was

of sixty-three ships of the line, seven frigates, thirty-six *en flûtes*, and fourteen barks.

The first of March, 1791, there was afloat, in the ports of the channel, the ocean, and Mediterranean, seventy-three ships of the line, sixty-seven frigates, nineteen corvettes, twenty-nine brigs and paquets, seven gun shallops, fifteen storeships, and sixteen gabards; without reckoning many other vessels attached to the service.

### STATE OF THE AMERICAN COLONIAL TRADE BEFORE THE REVOLUTION.

§ 396. According to the treatise of M. Page, on the commerce of the colonies in the year 1788, there were employed therein, 677 vessels, measuring 190,753 tons, carrying out in produce, or manufactures, to the amount of 76,786,000 francs; 105 vessels measuring 35,237 tons, carrying negroes to the number of 30,087, sold for 43,835,000 francs; their purchase having occasioned an exportation of 16,883,000 francs. In fine, the returns to France direct, were 218,511,000 francs, in colonial commodities.

By the statement thus made, it is perceived that the principal colonies of America, viz.—St. Domingo, Martinico, Guadeloupe, Tobago, Guiana, have sent to France, by 686 vessels, of Raw sugar, 872,867 quintals, valued at 34,871,000 francs. Clayed sugar, 768,566 quintals, valued at 44 millions, 540 thousand francs. Refined sugar, 242,074 quintals, valued at 10 millions, 160 thousand frs. Coffee, 785,447 quintals, valued at 87 millions, 642 thousand frs. Cocoa, 18,106 quintals, valued at 975 thousand francs. Cotton, 100,557 quintals, valued at 21 thousand 783 francs. Indigo, 11,109 quintals, valued at 10 millions, 453 thousand francs. Various commodities, as dye-woods, rocoa, turtle shell, hides, to the amount of 3,087,000 francs; total 218,511,000 francs.

These commodities were partly consumed at home, and a

part sent abroad; where they gave to France a considerable commercial credit, arising from a balance of near sixty millions in our favor.

In fact, of the 410 millions at which our exports to European ports was estimated, in 1788, that part consisting of colonial produce, was estimated at, viz.—

|                  |   |   |   |                |
|------------------|---|---|---|----------------|
| In raw sugar     | . | . | . | 17,540,000 fr. |
| Refined do.      | . | . | . | 1,733,000      |
| Clayed and lumps | . | . | . | 44,361,000     |
| Coffee           | . | . | . | 78,449,000     |
| Cotton           | . | . | . | 4,933,000      |
| Indigo           | . | . | . | 6,259,000      |
| Miscellaneous    | . | . | . | 3,995,000      |

Total 157,270,000 fr.

If we wish to ascertain the benefits of the commerce between France and her colonies, we shall perceive them to be considerable, and that they are composed of the amount of the freights and profits of the sale and purchase of goods, as well in the colonies, as in France. Before we give any statement thereof, according to the author of the treatise on the political economy and commerce of the colonies, we shall make known the various exports there, and the value in 1788, viz:—

|                                |   |   |               |
|--------------------------------|---|---|---------------|
| Flour, 328,168 quintals        | . | . | 5,731,000 fr. |
| Salt beef, 71,522 quintals     | . | . | 2,294,000     |
| Pork and lard, 46,898 quintals | . | . | 2,009,000     |
| Bordeaux wine, 107,050 muids   | . | . | 4,881,000     |
| Other wines, 36,509 muids      | . | . | 1,000,398     |
| Salt butter                    | . | . | 1,749,000     |
| Cider, beer, and other drink   | . | . | 280,000       |
| Liqueurs and brandy fruits     | . | . | 1,008,000     |
| Articles of provisions         | . | . | 1,760,000     |
| Brandy                         | . | . | 432,000       |
| Olive oil                      | . | . | 1,899,000     |
| Soap and tallow                | . | . | 3,324,000     |



|  |            |
|--|------------|
| Wax candles . . .                          | 591,000    |
| Salt fish, cod fish, and live stock .      | 4,621,000  |
| French fabrics . . .                       | 17,602,000 |
| Foreign do. . . .                          | 995,000    |
| Spiceries . . . .                          | 307,000    |
| India and French muslins and handkerchiefs | 5,779,000  |
| Mercery, crockery, draperies .             | 9,636,000  |
| Silver ware and jewellery . .              | 583,000    |
| Furniture, &c. . . .                       | 4,741,000  |
| Iron . . . . .                             | 1,339,000  |
| Tar, cordage, &c. . . .                    | 3,308,000  |

Total 75,889,898 fr.

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ESTIMATE OF FOREIGN IMPORTATIONS INTO THE COLONIES  
OF FRANCE IN 1788.

|                                     |               |
|-------------------------------------|---------------|
| Timber, for building and implements | 3,766,000 fr. |
| Boards and scantling . . .          | 787,000       |
| Dye woods . . . .                   | 172,000       |
| Live stock . . . .                  | 3,444,000     |
| Salted meats . . . .                | 953,000       |
| Salted fish . . . .                 | 1,671,000     |
| Grain . . . . .                     | 1,822,000     |
| Hides and skins tanned . .          | 389,000       |
| Tar, pitch, &c. . . .               | 110,000       |
| Coin and bullion . . . .            | 1,043,000     |
| Negroes, 6059 . . . .               | 6,237,000     |

Fr. 20,394,000

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In addition to the above the following articles are introduced, by special permission, viz:—

|                             |             |
|-----------------------------|-------------|
| Tobacco in leaf . . . .     | 571,000 fr. |
| Linens and hempen goods . . | 254,000     |
| Beer and other drinks . . . | 182,000     |

|                          |               |
|--------------------------|---------------|
| Flour . . . .            | 647,000       |
| Oil and fish . . . .     | 228,000       |
| Cocoa and coffee . . . . | 143,000       |
| Various articles . . . . | 1,247,000     |
|                          | <hr/>         |
|                          | Fr. 3,272,000 |
|                          | <hr/>         |

In 1788, the exports, for the coast of Africa, amounted to the value of 16,885,000 francs, for the purchase of 30,037 negroes, who, being sold in the West Indies, produced 43,835,000 francs. Their transport requiring 105 vessels, measuring 35,227 tons.

In calculating the benefit of the freight on the different branches of this trade, we find that the exportations to the colonies require 190,753 tons; the freight of which at the time, cost 100 to 120 francs the ton, there arises a total of 19,075,300 francs, on the transport of French productions.

*Amount of Freights.*

|   |                |
|---|----------------|
| Sugar, 1,883,507 quintals at 5 centimes per demi<br>kilogramme (a little more than a pound) | 9,417,535 fr.  |
| Cotton, 100,557 quintals at 11 centimes   | 1,131,266      |
| Coffee, 785,447 quintals at 7 centimes  | 5,890,852      |
| Cocoa, indigo, &c. 50,000 quintals at 9 centimes  | 500,000        |
| 30,087 negroes at 150 francs a head   | 4,513,050      |
|   | <hr/>          |
|   | 21,452,703 fr. |

Making a total amount for freight of the West

|                        |                |
|------------------------|----------------|
| India trade of . . . . | Fr. 40,528,003 |
|------------------------|----------------|

ST. DOMINGO

Is in length 800 kilometres (160 leagues), and in mean breadth 150 kilometres (20 leagues), and in circumference 1800 kilometres (360 leagues). In 1788, the French part of this island contained 792 sugar works, of which 451 were refine-

rices, and 341 raw; 2310 coffee; 705 cotton; 3097 indigo; 69 cocoa; and 173 stock plantations.

In the same year M. Barbe Marbois (the intendant) in his statement, gives for cultivation 570,210 carreaux.

N. B. The carreau contains 3405 square toises.

He estimates the slave population at the same period to be 405,523. In 1775, the white population was estimated at 32,600. In 1788, he estimates it at 27,717 whites only, of whom 14,571 were men, 4,482 women, and 8,664 children.

The free people of colour amounted to 31,808, of whom the females were most numerous; but of the 405,523 slaves, 174,971 are men, 138,800 are women, and 91,757 children.

According to a calculation of M. Page, published in 1802, the annual labour of a slave in St. Domingo produces 398 francs a year, when at Jamaica it yields only 192 francs.

From the same work it appears that the mean produce of a carreaux of sugar, is 3,489 lbs. raw.

The mean produce of a carreaux of coffee, 2,500 lbs. weight.

By a similar estimate of the cost of an establishment at Jamaica, the writer finds that an estate of 600,000 toises, worked by 350 negroes, yields but 240,000 lb. sugar, worth 72,000 francs.

The expences on an estate of 100 carreaux are—1. The food of the negroes, which amounts to but little, from the usage of allowing them ground to cultivate—2. The expence of overseeing and clerkhire—3. Tax—4. Reparation of losses in slaves and cattle, repairs of buildings, &c.; the whole amounting to 54,754 francs per ann. which, deducted from the gross produce of 153,000 francs, leaves a net sum of 98,246, equal to an interest of nearly 13 per cent, or 491 francs to each negro.

Estimate of the amount of the produce of St. Domingo, for the year 1788.—

Sugar, refined and raw 163,405,500 lbs wt.

at 47 centimes per lb.

76,800,585 fr.

Coffee, 68,151,000 lbs. at 48 cent.

32,712,480

|                   |                                    |                |
|-------------------|------------------------------------|----------------|
| Cotton,           | 6,289,000 lbs. at 2 fr. lb.        | 12,578,000 fr. |
| Indigo            | 930,000 lbs. wt. 8 fr. 69 cent.    | 8,081,700      |
| Cocoa             | 150,000 do. 7½ cent.               | 111,000        |
| Syrup             | 34,453,000 do. 6 cent.             | 2,067,000      |
| Turtle shell      | 5,500 do. 12 fr.                   | 66,000         |
| Hides             | 13,000 19 fr. 10 cent.             | 285,000        |
| Dye & other woods | 1,800,000 lbs. a 12 f. 50 c. p. c. | 225,000        |

In the Spanish part there were but twenty-four sugar works; the most part of these are but cylinders for making syrup, which is consumed in that state, or made into taffia. Coffee is but little cultivated. Cocoa is indigenous, yet but little cultivated. There is hardly a vestige of rocou or indigo. Tobacco is cultivated in small quantity; also rice, maize, millet and wheat.

The woods abound with valuable materials for the arts. Lands are not worth more than six francs per acre.

Its principal trade was in furnishing horned cattle for the French colonists, amounting to 11,000 head, worth twenty-five or thirty dollars a head; also, horses, mules, coffee, sacks, tobacco, and hides, the proceeds of which were commonly disbursed on the spot, for articles of luxury or necessity.

Provisions are supplied them by the United States, for which they return hides, woods, and dollars.

*Distribution of Grounds on a Farm in St. Domingo.*

|                                       |   |                          |
|---------------------------------------|---|--------------------------|
| Scites of buildings and pasturage     | . | 10½ carreaux             |
| Negro ground under cultivation        | . | 4                        |
| Bananas and other culinary produce    | . | 9 5-8                    |
| Guinea grass for cattle               | . | 3 1-8                    |
| Sugar canes                           | . | 67                       |
| Lanes, divisions, &c. planted in part | . | 5 6-8                    |
| Total in carreaux                     | . | 100                      |
|                                       |   | Equal to 340.500 toises. |

This estate, supposed to be of the second class,

costs at St. Domingo . . . fr. 200,000

|                                  |                |
|----------------------------------|----------------|
| Buildings and utensils . . .     | 190,000        |
| 16 oxen at 25 francs . . .       | 4,000          |
| 195 mules at 480 francs . . .    | 50,400         |
| 200 negroes at 2000 francs . . . | 400,000        |
| Tools, harness, &c. . . .        | 6,000          |
| Value of the capital . . .       | <u>760,000</u> |

The produce of such a plantation is—

|   |                    |
|---|--------------------|
| 450,000 lbs. of sugar at 30 francs per C. wt. | 135,000            |
| 150,000 lbs. syrup at 12 francs per C. wt.    | 18,000             |
|   | <u>Fr. 158,000</u> |

MARTINICO.

This colony is the next in value to St. Domingo. Its population, according to M. Necker, in 1779, amounted to 11,619 whites, 2,892 free people of colour, and 71,268 slaves, making altogether 85,779. In 1788, the enumeration gave—

|                                  |               |
|----------------------------------|---------------|
| For whites . . . .               | 10,608        |
| Mulattoes and free negroes . . . | 4,851         |
| Slaves . . . .                   | 73,416        |
| Total                            | <u>88,870</u> |

Its sugars, though good, are not equal to those of St. Domingo; but in coffee, it is deemed superior.

By the statements made in 1788, it appears that the exports to France were, viz.—

|                    |                |
|--------------------|----------------|
| Sugar, raw . . . . | 1,879,500 lbs. |
| do. clayed . . . . | 13,794,500     |
| Sugar lump . . . . | 11,945,300     |
| Coffee . . . .     | 6,816,100      |
| Cotton . . . .     | 1,155,000      |
| Indigo . . . .     | 1,000          |

Estimated at 25,640,000 francs.

The exports from France to Martinico,

for the same year, 1788, amounted to 15,133,000 fr.

From foreign nations to the same 9,198,000

The transport employed 136 vessels, measuring 23,786 tons.

#### GUÁDALOUPPE

Is about eighty leagues in circumference. In 1779, the population amounted to—

|        |        |
|--------|--------|
| Whites | 13,261 |
|--------|--------|

|                       |       |
|-----------------------|-------|
| Free people of colour | 1,382 |
|-----------------------|-------|

|        |        |
|--------|--------|
| Slaves | 85,327 |
|--------|--------|

In 1788, the population amounted to—

|        |        |
|--------|--------|
| Whites | 13,466 |
|--------|--------|

|                       |       |
|-----------------------|-------|
| Free people of colour | 3,044 |
|-----------------------|-------|

|        |        |
|--------|--------|
| Slaves | 85,461 |
|--------|--------|

In 1777, the quantity of land, under culture, was 26,089 arpents.

The stock thereon was 9,220 horses and mules; 15,740 horned cattle; 25,400 sheep, pigs, and goats.

The exports to France, in 1788, were, viz.—

|           |                |
|-----------|----------------|
| Raw sugar | 1,119,400 lbs. |
|-----------|----------------|

|            |           |
|------------|-----------|
| Clayed do. | 6,433,600 |
|------------|-----------|

|       |           |
|-------|-----------|
| Tetes | 7,651,100 |
|-------|-----------|

---

|  |            |
|--|------------|
|  | 15,204,100 |
|--|------------|

---

|        |           |
|--------|-----------|
| Coffee | 3,730,000 |
|--------|-----------|

|       |        |
|-------|--------|
| Cocoa | 55,900 |
|-------|--------|

|        |         |
|--------|---------|
| Cotton | 741,100 |
|--------|---------|

|        |     |
|--------|-----|
| Indigo | 700 |
|--------|-----|

|                   |  |
|-------------------|--|
| Syrup, racou, &c. |  |
|-------------------|--|

Guadaloupe received from France in the same year, in—

|                                      |               |
|--------------------------------------|---------------|
| Produce of the soil and manufactures | 5,362,000 fr. |
|--------------------------------------|---------------|

|                 |           |
|-----------------|-----------|
| From foreigners | 3,424,000 |
|-----------------|-----------|

# **COLONIAL TRADE.**

**361**

## **ST. LUCIA**

Is forty leagues in circuit. It has two excellent harbors.

In 1788, it contained 1352 horses and mules, 2055 horned cattle, and 4000 sheep and goats.

In the same year the population was, viz.—

|                       |   |   |   |   |        |
|-----------------------|---|---|---|---|--------|
| Whites                | . | . | . | . | 2,159  |
| Free people of colour | . | . | . | . | 1,588  |
| Slaves                | . | . | . | . | 17,221 |

The exports in 1787, consisted of, viz.—

|                  |   |   |   |                |
|------------------|---|---|---|----------------|
| Raw sugar        | . | . | . | 1,666,000 lbs. |
| White and clayed | . | . | . | 3,334,000      |
| Coffee           | . | . | . | 1,560,000      |
| Indigo           | . | . | . | 25,000         |
| Cotton           | . | . | . | 200,000        |
| Cocoa            | . | . | . | 95,300         |
| Syrups           | . | . | . |                |

## **TOBAGO.**

Its produce, exported to France, is estimated at, viz.—

|            |   |   |   |           |
|------------|---|---|---|-----------|
| Raw sugar  | . | . | . | 2,925,000 |
| Coffee     | . | . | . | 15,900    |
| Cotton     | . | . | . | 1,231,800 |
| Indigo     | . | . | . | 4,500     |
| Syrup, &c. | . | . | . |           |

Exported to foreign nations 1,402,000 francs,

Its population, viz.—

|                       |   |   |   |        |
|-----------------------|---|---|---|--------|
| Whites                | . | . | . | 2,125  |
| Free people of colour | . | . | . | 231    |
| Slaves                | . | . | . | 13,295 |

The receipts of French produce and manufactures, for the same year, was about one million francs.

## MARIA GALANTE.

The population, in 1788, amounted to—

|                       |        |
|-----------------------|--------|
| Whites                | 1,938  |
| Free people of colour | 226    |
| Slaves                | 10,121 |

The exports were, from this island and that part of St. Martins, in possession of the French—

|           |                |
|-----------|----------------|
| Raw sugar | 4,784,000 lbs. |
| Coffee    | 636,000        |
| Indigo    | 30,000         |
| Cotton    | 230,000        |
| Cocoa     | 55,000         |

Without comprehending what was exported to the United States, and elsewhere.

## LA DESIRADE.

Its population, in 1788, was—

|                       |     |
|-----------------------|-----|
| Whites                | 213 |
| Free people of colour | 33  |
| Slaves                | 619 |

It produces a little coffee and cotton.

## LES SAINTES.

The population, in 1788, was—

|           |     |
|-----------|-----|
| Whites    | 419 |
| Mulattoes | 20  |
| Slaves    | 365 |

## GUIANA.

By the treaty of Amiens, French Guiana begins at the river D'Arawori, which falls into the ocean above Cape Nord, near to the isles New and Penitence, in about one and a third degrees of N. latitude. This limit follows the Arawori, from its mouth to its source, and by a line from thence west to the



river Banco. The navigation of the river Arawori to be common to the French and Portuguese on its banks.

Cayenne is the chief place of the department.

Guiana was not occupied by the French until 1635. At that period the merchants of Rouen sought to form an establishment at Cayenne, a neighboring isle, separated by an arm of the river Cayenne from the continent.

French Guiana has not less than 100 leagues of coast; the navigation is difficult, from the rapidity of the current, and is embarrassed by small islands, and banks of sand and clay; by mangroves strongly intertwined and advancing two or three leagues into the sea. The large and numerous rivers, which water this continent, are not easily approached, their channels being barred up by huge rocks. But at a distance from the coast, the navigation is easy, and winds favorable.

The census of 1788 allows to this colony 1,307 whites, 39½ free persons of colour, and 10,748 slaves.

A statement for the same year gives, for the produce—

|             |   |   |   |   |            |
|-------------|---|---|---|---|------------|
| Sugar tetes | . | . | . | . | 2,600 lbs. |
| Coffee      | . | . | . | . | 15,900     |
| Cocoa       | . | . | . | . | 21,000     |
| Cotton      | . | . | . | . | 92,500     |
| Indigo      | . | . | . | . | 5,000      |

Miscellaneous, valued at 539,000 francs.

Attempts have been made to naturalize the pepper, nutmeg, cinnamon, and clove, but the two first have not succeeded. The pepper plant was said not to be of the true species, and the male nutmeg dying, the female alone remained. The cinnamon and clove have prospered beyond expectation: the first have been multiplied by cuttings, the last by the fruits known by the name of *matrices*, which produce the first plants.

### AFRICAN COLONIES AND TRADE.

§ 397. In 1364 the navigators of Dieppe began to frequent the coast of Guinea. The Senegal was unknown till the year 1447. From this time till 1589, this trade was carried on with some success. In 1621, a company undertook to carry on the same trade, and continued it till 1664, when the West Company of Africa was created. This company had the exclusive privilege, during forty years, of the whole African trade from Cape Blanc to the Cape of Good Hope. The company had formed an establishment at the isle of St. Louis, and other places. The company was suppressed in 1674, and a free trade restored. Notwithstanding this revocation, we perceive that, in 1679, the government entered into a treaty with the company of Senegal, for the supply of 2000 negroes per annum, for the West-Indies, giving an advance of 13 francs a head. The contract was confirmed by an arret of council of the same year: it allows the company to dispose of the negroes at their pleasure, and forbids all persons from trading to the coast of Africa, from the Gambia to the Cape of Good Hope. This arret of council was followed by a patent, from June 1679, which confirms the company in the exclusive privilege of the commerce of Senegal, the river Gambia, and other places on the coast, between Capes de Verd, and Good Hope. The company was destroyed and reestablished, until the year 1713, when the trade of the coast became again free: at length, in the year 1716, it was united to that of the East India company. This union was to remedy the evil arising out of the rivalry in private trade, which depreciated the merchandize of France, and raised that of the negroes. The India company engaged to transport, annually, to the islands, 3000 negroes. The produce imported into France, in return for those slaves, was exempted from one half of the ordinary duties. The remaining trade was abandoned to private enter-

prize. By the treaty of 1763, we had secured Goree and its dependencies; and its trade became free to all. In 1772, a company was formed at Paris, to carry on the trade in negroes and gum; the government promised its protection, without infringing the general freedom of commerce.

In 1776, a company obtained a grant of land in Guiana, for the cultivation of tobacco and other produce, under the title of the company of French Guiana; it was authorized to form establishments on the coast, or in the interior of Africa. To facilitate these important purposes, which exacted considerable advances, government issued an arret, in 1777, giving to the company the exclusive privilege of the trade in negroes, and the commerce of Goree, from Cape Verd to the river Casamancee, during fifteen years, under injunction that the blacks so obtained should be delivered at Guiana only. The war of 1778 suspended the operations of the company, and was attended with the capture of Goree by the English. On the other hand, Senegal was taken from the English in 1779.

On the representation of the company of Guiana, after the peace of 1783, setting forth the novel state of things, government accorded to them the exclusive trade in gum, on the Senegal and its dependencies, during nine years, suppressing the former grant of 1777. By an arret of 1786, the privileges of the company were extended to the monopoly of negroes, gold dust, elephants' teeth, wax, &c. from Cape Blanc to Cape Verd only. The company is prohibited from trading from Cape de Verd to Cape Tagrin, leaving open the coast of Goree, to water or traffic, in all commodities, blacks excepted; the company defraying the local expences of government, estimated at 260,749 francs: under those arrangements the agents of the company took up their residence at Goree. This grant was limited to the year 1799.

The French minister planned the reduction of Goree into a simple accounting establishment; concentrating the force on the coast for the defence of the river and fort of Senegal. As-

according to this project, the expence of Senegal and Goree might be reduced to 302,221 francs, from which sum, deducting 260,749 francs, chargeable to the company, there remained to the charge of the government, about 41,472 francs.

The company subsequently assumed the payment of this sum, on being allowed, as others, to trade from Cape Verd to the Gambia.

In 1791, the national assembly suppressed the company, and restored the freedom of trade on the Senegal.

#### *Gum.*

Gum-Senegal flows from a species of tree, called commonly gum-tree, of which there are several forests to the north of the river. It is collected by the Moors to dispose of to the Europeans. It is so much the more precious as it is in the possession of the people of Senegal exclusively. The gum of the Levant is not a fiftieth part of the quantity consumed in Europe. The collection of gum takes place in the month of March, and is subject to vicissitudes, and the trade experiences a plenty or scarcity accordingly, although they are never deficient for two seasons in succession.

The regular consumption of this drug in Europe is estimated at 1000 tons. The French company have traded to the amount of 1200 Moorish quintals (each quintal being 900 lbs. weight.) The price on the spot is twelve to fifteen sous a pound; and in France two francs to two twenty five 100ths (forty to forty-five sous) in time of peace. This branch of commerce may be reckoned at 3,000,000 a year.

The Moors, who collect this gum, pack it in skins, and carry it on their camels and oxen to the marts of the Desert, or Podor, in the months of April and May, and sell by the quantar: this weight was formerly deemed equal to from 330 kilogrammes, 463 grammes, to 978 kilogrammes, 292 grammes, or from 1800 to 2000 lbs. weight; however it is sometimes rated at 2,400 lbs. The traders attend at those

marts with the goods necessary for trade, as brandy, cloths, hardware and glassware, &c.

The articles following are used in the trade of Senegal, viz.—Iron in cases, fire-arms, sabres, brandy, glassware, white and coloured, red and false coral, beads, blue guineas, platinas, sugar in barrels, molasses, cloves, nutmegs, dried raisins, mustard, green tea, pepper, oil, vinegar, fine amber, scissars, combs, mirrors, tea caddies, snuff boxes, small bells of gold and silver, cloths, Silesian scarlet, muslins, blue great coats, Nankeens, shirts, pantaloons, hats, shoes for either sex, hams, cheese, salt beef, lard, rice, butter, paper, ~~ink~~, tent poles, tin, tobacco, copper kettles. The trade is conducted by the standard of the *bar* (of iron), being the medium ordinarily used in the purchase of millet, which is the chief nourishment of the Africans.

By a regulation of February 4, 1786, the bar of iron known in the trade of Senegal, was rated at *four pattes*, about fifteen to sixteen pounds weight. During the war, the scarcity of iron has altered the standard, so that, in 1801, it was of two *pattes* only. The bar is counted equal to five francs, but in money payments, goes for four francs and eighty-one cents.

Besides the *quantar*, the Moors also use the *gamelle*, equal to 1,500 lbs. weight. In the river trade, the integer of calculation is a piece of guinea, according to the price agreed on with the Moors, who enjoy the gum trade: the piece of guinea is rated at ten bars or fifty francs.

The gum should be dry, for, if humid, it may lose one-fifth on the voyage. The vessels in the gum trade leave France the beginning of March.

### *The Negro Trade*

Is conducted, in the interior, by negro factors, who have regular correspondents in succession, from the coast into the heart of the country. During the journey, the slaves pass

through the territories of various kings, who receive a duty on passage and for surety ; so that the slaves rise in price as they approach the coast. There is another class of dealers, who wander about in all parts securing slaves. Some of those negro merchants ascend the large rivers in well armed canoes, and frequently two or three hundred leagues, with a retinue of fifty or sixty men : they bring one hundred slaves at a trip. They obtain a credit on the coast for such merchandize as they wish to exchange for slaves, but leave behind them a pledge for their return, which is generally their own kindred. The negro trade begins near the river Senegal, and extends to the farthest part of the coast of Angola.

On the rivers of Senegal and Gambia, the Europeans ascend with their ships, and send their boats well armed amongst the villages, where, by firing a musket or beating a drum, they announce their want of slaves. On that part of the coast extending from Cape Mount to Cape Palmas, the natives, when they have slaves to sell, give a signal by fire, when the vessels laying off immediately send a boat ashore to where the smoke is perceived, and commonly receive three or four slaves at a time. Sometimes they are brought aboard by the natives. Vessels are frequently a year on the coast, before their cargoes are completed.

When a vessel arrives at the Gold Coast to trade, she generally anchors at Anamabo, they send on shore for gold dust and slaves. On other parts of the coast the merchandize of Europe generally is given for slaves; though gold dust is sometimes a medium, and is taken from one part of the coast to be disposed of at another.

In the year 1768, there was exported from Africa 104,000 natives; and during the four succeeding years the number varied but a little. It diminished during the American war. The number brought to America, in 1786, was 100,000 and the vessels employed in this transport 352. This may be regarded as the average import in time of peace.

# GUINEA TRADE.

309

This trade is in general advantageous to the merchant, though not so to the nation generally, as the merchandize that chiefly supply the trade is from India, or the produce of foreign commerce, and but little of French fabrics.

|  |            |
|--|------------|
| Of the merchandize exported to Africa, the estimate was— |            |
| Of French origin . . . . .                               | 8,836,000  |
| Of India, England and Holland . . . . .                  | 7,263,000  |
| In specie, produce of the United States of America       |            |
| and Germany . . . . .                                    | 784,000    |
|  | <hr/>      |
| Francs   | 16,883,000 |
|  | <hr/>      |

The African trade was carried on by the cities of Nantes, Havre, Bourdeaux, Rochelle, Marseilles, Harfleur, Rochfort, Saint Malo, Port Louis, viz.—

|                 |                    |        | Francs.     |
|-----------------|--------------------|--------|-------------|
| In 1788, Nantes | 32 vessels, 11,113 | tons   | 5,225,000   |
| Havre           | 13                 | 6,288  | 4,067,000   |
| Bordeaux        | 31                 | 4,634  | 3,535,000   |
| Rochelle        | 6                  | 5,065  | 1,319,000   |
| Marseilles      | 7                  | 1,987  | 736,000     |
| Rochfort        | 6                  | 3,346  | 2,001,000   |
| St. Malo        |                    |        |             |
| Port Louis      |                    |        |             |
| Harfleur.       |                    |        |             |
|                 | <hr/>              | <hr/>  | <hr/>       |
|                 | 95                 | 32,433 | 16,883,0000 |
|                 |                    | <hr/>  | <hr/>       |

§ 398. *Merchandize employed in the Guinea trade, from Goree to the Gambia, with the common price, in the year 1789.—*

|                                       |   |   |          |
|---------------------------------------|---|---|----------|
| 1 piece Guinea cloth                  | . | . | 10 bars* |
| 1 piece Indian                        | . | . | 10       |
| 1 piece platilla                      | . | . | 2        |
| 3 to 4 pints brandy                   | . | . | 1        |
| 1 fusil                               | . | . | 20       |
| 1 do. double barrel                   | . | . | 20       |
| 1 pair pistols                        | . | . | 6        |
| 100 flints                            | . | . | 1        |
| 100 bullets                           | . | . | 1        |
| 2 lbs. lead                           | . | . | 2        |
| 2 lbs. gun powder                     | . | . | 1        |
| 1 sabre                               | . | . | 1        |
| 4 skeans red or yellow woollen thread |   |   | 1        |
| 1 piece amber, No. 3 and 4            | . | . | 1        |
| 1 do. coral                           | . | . | 1        |

Beads, beggar's lace, paper, tobacco, small bells, padlocks, Flemish knives, small mirrors in paper and wood, brass kettles, and dollars.

*Merchandize exported to Africa.*

Flour, grain and pulse, oils, and other articles

|  |   |   |               |
|--|---|---|---------------|
| of subsistence                           | . | . | Fr. 1,130,000 |
| Brandy, wines, and liqueurs              | . | . | 1,579,000     |
| Fire and side arms                       | . | . | 520,000       |
| Iron, copper, lead and tin               | . | . | 575,000       |
| Cloths and handkerchiefs                 | . | . | 2,148,000     |
| Piece goods, (foreign) and India muslins | . | . | 6,675,000     |
| Various draperies                        | . | . | 285,000       |
| Cutlery                                  | . | . | 164,000       |
| Various stuffs                           | . | . | 328,000       |
| Coral and beads                          | . | . | 198,000       |

\* N. B. The bar is a piece of iron 36 inches long, weighing 15 to 16 lb.



## VEGETABLE PRODUCE.

811

|                            |   |   |   |   |           |
|----------------------------|---|---|---|---|-----------|
| Gunpowder                  | . | . | . | . | 112,000   |
| Tobacco                    | . | . | . | . | 730,000   |
| Cordage and small sails    | . | . | . | . | 250,000   |
| Mercery, haberdashery, &c. | . | . | . | . | 1,195,000 |
| Dollars                    | . | , | . | . | 326,000   |
| Cowries                    | . | . | . | . | 588,000   |

The returns of this commerce, are in gum, elephants' teeth, gold dust, wax, and 30,000 negroes, sold in the colonies.

The exports of France to Africa, before the war, amounted to 16,883,000 francs, and produced—First, 30,087 negroes, sold for 43,835,000 francs—Secondly, in gum, ivory, gold dust, &c. 1,791,000 francs. If we estimate the freight, insurance, outfit and navigation, we shall have an increase of capital to the amount of 21,947,900 of exports, in lieu of the before mentioned 16,883,000 francs. Thus the original capital produces, by the sale of slaves, a new one of 43,835,000 francs, allowing ten per cent. for mortality. If to the second capital we add the bounty given by government, which, under various forms, amounts on an average to 2,340,000 francs; if we add thereto 1,701,000 francs, for the amount of gum, ivory, &c. as well as slaves, to the capital, we shall see the benefit accruing 112 per cent. *plus* the profits arising from the colonial investments in return, to the mother country.

## ON THE VEGETABLE PRODUCE.

§ 399. Howsoever great may be the consumption of corn, since bread is used every where, it is said, there is every year a surplus disposable for export. It is rare that the harvests are bad throughout all the departments, the soil being of different qualities, more or less in agreement with the existing season. Some go so far as to say, that a year's crop will suffice for two years' consumption. However this may be, a comparison of the exports and imports of grain will enable us to perceive that

the latter always exceeds the former. Nearly all the corn we receive comes from England. That power, which annually gains from abroad a balance of near two millions sterling, acquires, in the trade with us, the greatest part of this balance. The commercial statements show, that from 1715 till 1755, England sold to France to the amount of 200 millions tournois, in wheat.

By the account rendered to the national convention, by the minister Roland, the 6th January 1793, it will be seen, that during the nine first months of 1792, France had drawn from abroad 2,090,565 quintals of wheat, 277,139 quintals of rye, 215,667 quintals of flour. Of these quantities England has supplied 460,561 quintals of wheat, 33,589 of rye, 38,634 of flour, making an enormous amount; since at that time corn sold in the markets of France for twenty-six to thirty francs.

§ 400. There is two modes of estimating the product of grain, in a common year throughout France. The first, which consists in calculating the quantity by the extent under cultivation, and by a mean estimation of the quantity per acre produced: it is that of a great number of writers on political economy, among others Messieurs Vauban, Quesnay, and Expilly. By the second method, which appears to us the best, the crop is estimated by the consumption, according to the method of Lavoisier.

\* NOTE. A great part of this export to France, was American and other foreign produce, reexported.

Italy furnished 1,041,000 quintals; almost all the remainder is from the Levant and Mediterranean, and entered at the port of Marseilles.

The export to France from the United States of America, for the year ending the 30th September, 1792, was—

|                |   |   |   |   |   |                |
|----------------|---|---|---|---|---|----------------|
| Rice           | . | . | . | . | . | 8,504 tierces  |
| Flour of wheat | . | . | . | . | . | 25,616 barrels |
| Wheat          | . | . | . | . | . | 11,269 bushels |
| Indian corn    | . | . | . | . | . | 63,370 do.     |
| Bread          | . | . | . | . | . | 126 barrels    |
| Crackers       | . | . | . | . | . | 40 kegs        |

# VEGETABLE PRODUCE.

816

|                    |   |                     |
|--------------------|---|---------------------|
| Estimate by Vauban | . | 59,175,000 setiers* |
| Quesnay            | . | 45,000,000          |
| Lavoisier          | . | 50,000,000          |
| Arthur Young       | . | 75,000,000          |

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307,648,380

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Mean rate 61,519,672

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This difference of opinion with writers of note in political economy, proves that exactitude is not to be had on this subject, excepting by a correspondence with the cultivators. It may be observed that the quantity imported is so inconsiderable, that the sustenance of the inhabitants may be deemed to rest entirely on the harvests of the country. Knowing then the number of inhabitants, and the quantity required by an individual, we shall have the produce of grain.

In France, the people, and the people of the country especially, eat but little animal food, and consume largely of flour, bread, pies, &c. In the cities, the manufacturers, masons, carpenters, &c. and the paupers also, consume largely of bread, so that one each of this class, forming two-thirds of the nation, may consume three setiers of corn per annum, or two and one fourth pounds of bread per diem: for twenty-one millions of persons, this would give annually, a consumption of sixty-three millions of grain. It may be perhaps objected, that all the women, children, and even others, consume not two and a fourth pounds of bread a day: this is true; but it may be observed also, that men from the age of fifteen to fifty, eat more than this.

Those in easy circumstances, having food more abundant and varied, consume a less quantity; but the pastry, sauces, and other means, consume much of the finest flour, of which their domestics also partake; besides, the prodigious consumption in hair powder, the consumption of each individual in this

\* N. B. A setier is rated at 240 lbs. weigh

class may be estimated at (two hectolitres) two setiers per annum, which for the eleven millions contained in it forms an amount of twenty-two millions of setiers of grain.

There is then eighty-five millions of hectolitres of grain consumed in France. The export to the colonies being equal to two million hectolitres of wheat, giving eighty-seven millions hectolitres, to which adding fourteen millions at least for the seed, there results 101 millions of hectolitres of grain, for the yearly crop.

If it is supposed that I have overcharged in some reports, which I do not believe, it may be observed that I have made no mention of the usage of flour by bookbinders for stamped paper, that part used by animals, in the arts, and what passes privately abroad.

By the statements of the balance of commerce, made in 1784, it will be seen, that there was exported from France during that year—

|        |   |   |   |               |
|--------|---|---|---|---------------|
| Wheat  | . | . | . | 2,608,800 fr. |
| Rye    | . | . | . | 239,400       |
| Barley | . | . | . | 321,100       |
| Flour  | . | . | . | 1,271,500     |

And in the same year there was imported—

|        |   |   |   |            |
|--------|---|---|---|------------|
| Wheat  | . | . | . | 5,347,900, |
| Rye    | . | . | . | 139,800    |
| Barley | . | . | . | 163,800    |

The statement for the year 1788, shews that in the year 1787, the time in which export and import was free, the former amounted to 6,559,900 francs, and the latter 8,116,000 francs.

It appears from this last statement, that notwithstanding the freedom of exportation so much coveted, and the abundance of that period, the import exceeded the export.

§ 401. *Wheat* holds the first rank amongst our grains. That of France passes for the best of all, and is distinguished in three qualities.—First, superior—Second, middling—Third,

common. The more it weighs according to measure, the more flour it yields. A setier of the first quality weighs 240 lbs.; of the second quality 230 lbs.; of the third quality 220 lbs.

The quality of the grain depends partly on the climate and temperature of the country where it grows. The grains of Languedoc, Provence, and Dauphiny, are reputed superior to any other, nor does the influence of the soil do less: the best is raised on good substantial soils; but if dry and stony, they yield well in flour. The grain of strong, clayey grounds, is the next in quality; and after, those that are heavy, moist, or marled. The most fertile lands yield thirty quintals per arpent; that is, fifteen for one, deducting for seed two hundred pounds. This land, however, is rare: there is not an hundredth in France. The ordinary good lands, as those of Picardy, and the isle De France, give commonly twenty quintals; the least fertile give ten quintals.

Wheat of the best quality is rare in the markets. The price is always greater than the difference of weight proportionately demands, there being twenty to twenty-five per cent difference in price, though the difference in weight is no more than ten per cent: other things equal: the bearded and March wheat sell below the others; they are more difficult to manufacture, and are more abounding in extrinsic grains.—The country folks, however, seek for it, because it soaks much water: the winter grain has whiteness, delicacy, and fineness. There is also a kind sown in autumn called Smyrna wheat.

This grain, above all others, yields the greatest quantity of flour, and is most conducive to the nourishment of man. There is known in France two kinds of grinding—the gross and the close. The first which varies not only from city to city, but from mill to mill, according to the set of the stones, the closeness of the bolter, and the rapidity of the movement. We regret that this method is so general. It gives less flour, and the qualities are less discriminated: it produces of fine

flour, for the loaf of first quality, two-thirds; for the loaf of second quality, one-sixth; for the coarse bread, one-sixth.

Thus, 560 lbs. weight of wheat, which affords, suppose 534 pounds of bread, yields, of the—

|                    |   |   |            |
|--------------------|---|---|------------|
| First quality, but | . | . | 856 pounds |
| Second quality     | . | . | 89         |
| Third quality      | . | . | 89         |
|                    |   |   | <hr/>      |
|                    |   |   | 534 pounds |

By the close, or economical milling, which consists in milling and remilling, (the above being but one milling) the three-fourths is drawn in flour from the grain. The waste is reckoned at one-forty-fifth: the remainder consists of bran. The waste in the gross way, to be sure, is not so considerable, as there is no regrinding, but the produce of flour is more regular in the economical way, and the distinction of quality is well established.

A baker who knows his trade, will get five-sixths of bread beyond the weight of flour employed; a little more on large loaves, and somewhat less on small.

§ 402. *Rye* is common in France. There is more of it gathered than of wheat, the grounds proper for it being much more extensive. Good lands furnish twenty quintals per arpent, the middling fourteen quintals, and ordinary ten quintals. After wheat, this grain is the best; it is difficult to manufacture. Good milling costs a fourth more than wheat, from the difficulty of cleansing it from the bran. It gives three-fourths of flour; the remainder is bran and refuse. This flour absorbs a tenth of water more than that of wheat. The price of rye is governed by a curious rule; that in proportion as wheat rises in price, the price of rye approximates to it. Half the people of France use rye bread.

§ 403. *Barley* is of two sorts, the winter and spring barley. When the spring is moist, the grounds sown in barley produce well: 200 lb. per arpent, yields from ten to thirty quin-

tals. The price holds a proportion with that of wheat and rye. It yields two-thirds of its weight of flour, and absorbs an eighth of water more than rye. It is consumed in the tanneries, breweries, poultry yards, and it is cut green for horses. The price is commonly two-thirds of that of rye.

§ 404. *Oats* is, in some parts, a considerable object of attention: there is the white and the brown. In Normandy and Lower Brittany, they use it as pottage. It yields but little flour, and absorbs but little water.

The trade in corn at Paris, is merely for its own provision. After a research made in 1775, by Mr. Turgot, then comptroller of the finances, the quantity of wheat and rye brought into Paris during a mean year, out of ten, from 1764 till 1774, was found to be 14,351 muids, and of flour 66,289.\*

Upon this it may be seen that in a common year at Paris, as 1775, there was brought into Paris, of wheat or rye flour—

41,330,880 lbs.

165,457,344

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206,788,224

---

This quantity is nearly the same, as is consumed at this time, from the observations made on the quantity arriving. The consumption then of the inhabitants of Paris is nearly fifteen ounces for each individual, of all descriptions.

The supplies of Paris are furnished through two different channels, by boats from the river, or waggons to the Hall, which is the grand thoroughfare of the farmers and dealers; the daily sales are twelve hundred sacks, of three hundred and twenty-five pounds each. The greatest part of the flour, not made in the vicinage, is from Picardy, Meulan, Pontoise, Mantes, St. Germain and Poissy, and some from Etampes. The consumption of oats appears to be 21,409 muids, and of barley, 8500 muids. The produce of oats is estimated at 5,260,000 francs.

\* NOTE. The muid of grain is twelve setiers, of 240 lbs. each, or 182 kilolitres.

*Flax and Hemp.*

§ 405. We find fields of flax and hemp in all parts of France; but it is only in some particular places that we see large sowings. Flax is found only in large quantity, and good quality, in the departments of Finisterre, Cotes du Nord, Ille-et-Villaine, Calvados, Lower Seine, Somme, Pas de Calais, Du Nord, La Lys, L'Escaut, Deux-Nethes, and generally in the vicinage of the sea. Hemp is cultivated more where flax is not so much attended to.

It is in the department of the North, La Lys and La Somme, particularly, that the flax culture is an inexhaustible source of riches. This plant occupying the greatest part of the new lands, furnishes the raw materials for the manufactures of Courtray; the flaxseed furnishes oil abundantly. In La Somme an hectare of flax sells from six hundred to eight hundred francs: nor is hemp neglected, it is cultivated for oil, from which a large profit is derived. It is observed that of these two plants, hemp is the most expensive culture. The small farmers manufacture the flax they raise, but the greater, who in some seasons, grow 30,000 lbs. sell to the carriers who carry it off to the lower Seine and other places, where it is spun. The principal manufactories are at Quintin, Uzel, Loudeac and Moncontour; they make cloth from one franc fifty centimes to five francs. They export annually to Cadiz eight to ten thousand bales, from whence they are shipt to the Spanish colonies. Much of the yarn goes to the dyers of Rennes, where it is dyed and twisted. At the hall of Laval, the sales are said to amount to five hundred thousand francs a week.

In the lower Pyrenees and L'Oise, near Beauvais and Senlis, where a good deal of flax is grown, though of inferior quality and quantity, a supply is obtained for the manufacture of those handkerchiefs called *Bearn*, and some other similar articles well known in commerce.



The seed oil of flax is used in lamps, and by painters, and the refuse of the grain for fattening cattle.

In the Lot, La Loire and Garonne, their hemp is of the best quality; their flax is chiefly made into table linen, and exported to Spain. The sail manufactory of Agen is an important object; the cloths are sent to Brest, Rochfort and Toulon.

In the department of la Marne, the hemp and flax are made chiefly into thread, the oil is a secondary consideration. The hemp and flax ready dressed is said to amount to 600,000 quintals, brought to the two fairs of the department each year. There is besides at Chalons, some trade in hemp and flax, in a rough state.

From the observations made, it appears that flax thrives best in situations close to the sea; and hemp every where, when the soil is suitable.

M. Tessier observes that in the years preceding the revolution, in a mean of ten, the importation of flaxseed into France from Russia, gave that country an advantage of 1,110,900 francs. How necessary, then, is it to annihilate the prejudices that the French farmers have against the seed of their own crops! He has also made numerous experiments on the French seed, all presenting a satisfactory result. In support of his assertions, he cites the case of a number of farmers of the Pays-de-Caux, who during the war could not procure the seed of the north, yet have raised the finest flax in the world, indeed superior to any they have ever had.

#### *Coleseed, Rape, and Poppy.*

§ 406. The coleseed and rape are merchandize. They yield an oil, used in manufactures and for light. Before the war, it was to be found only in the poorer country houses, to give light, as it occasioned much dirt, and a disagreeable smell. The means of purifying it has been since discovered, and no other is now used at public theatres, coffee-

houses, and ball rooms. The city of Paris, and all the larger towns are lighted up with this oil; it is known in commerce under the name of oil *a quinquets*. The remains make a drink very nourishing for sheep and horned cattle, when diluted with water. The stalks are fit to burn, the leaves are good fodder, particularly for milch cows, nor can any thing be sown before a crop of wheat more advantageously than colza.

In the department of Jemappe, the colza is largely cultivated, and also the poppy, which is of three sorts the grey, the black, and the apothecaries'; from the two first are drawn much oil, known by the term oil *d'oeillette*; two or three ounces serve to sow an acre or demi hectare. It is particularly in the department of the North, that the colza offers great advantages; here are thousands of mills making oil day and night, when the wind serves. A mill can make, in twenty-four hours, sixteen to eighteen barrels of oil.

In the Lower Seine, from Dieppe to Havre, the ground is covered with *rabettes* and *colza*. A great deal of oil is made, forming the basis of a great trade. It is sent into the interior in considerable quantities, and is also shipped abroad from Dieppe, Fecamp, and Havre. Their mills yield twelve or fifteen barrels of oil in twenty-four hours. For the last two years the quantity of land sown in *rabettes* and *colza*, is estimated at 1,928 acres, and is still augmenting. We know of two mills at Fecamp which during the year VIII, have made more than 2,000 barrels of oil; and that there are, in the same department, fifty other mills which work all the year, and use only the seed of the adjoining country; and this result supposes, as may be seen, a very extensive culture. In the Deux-Nethes, the crop of colza is estimated at 11,314 quintals, in a common year. In L'Oise, the high and low Rhine, the oil of rape, colza and *oeillette*, furnish the means of commerce, extensively. In La Marne, they are cultivated as oil plants; first, the biennial rape, which is sown with the barley, oats, and buck wheat,

or after harvest, by itself; second, the annual rape, sown in May, and gathered in July; third, the camomile, planted in spring.

This culture serves in lieu of fallows, and prepares the land for wheat, rye, and oats, by enriching it.

The sun-flower and royal nettle (*galeope piquant*) should be ranked with the oleaginous plants. There is an essay on the culture of the first, in the "Cultivator," from whence it appears that forty-eight pounds of seed gives twelve pounds of oil; that the refuse is good food for hogs, goats, or fowls; the leaves are much liked by goats, sheep and rabbits; and the stem serves for fuel, and makes ashes rich in alkali; 200 myriagrammes of cinders giving four myriagrammes of alkali. To render this culture more advantageous, the writer observes, it should be joined with that of beans and potatoes; the beans cling to the stalk of the sun-flower, the potatoes fill up the spaces between the rows of the sun-flowers, and their offal enriches the ground. The nettle grows in all the hedge rows, ditches, among woods, &c. Its seeds, managed like those of flax, hemp seed, or poppy, give an oil proper to burn, and for manufactories, soap, and other purposes.

#### *Buck Wheat.*

§406. The buck wheat is found in most parts of France, but suits only particular spots. The buck wheat corn serves for poultry, and sometimes bread. It does not exhaust the land, but prepares it for wheat, and its use for forage is safe. It is much used by the common people. The species called *black Siberian wheat*, is a fine variety, and is highly recommended by the Abbe Rozier and others.

#### *Madder.*

This plant, so well known to the dyers, is found in the Lower Rhine, Deux Nethes, Du Nord, Vaucluse, Bouches-du-Rhone, Lot and Garonne, and Normandy.

Since the introduction of artificial meadows, tobacco, and particularly madder, there are farms on the Lower Rhine, which yield to the proprietors nineteen or twenty times as much profit as they did formerly, in the last century. Five acres, cultivated in madder, give about 250 quintals of roots, which, in the rough state, at the mean rate of eight francs, the quintal is

|  |           |
|--|-----------|
| Various expences of import and culture | 2,000 fr. |
|  | 1,010     |

|            |     |
|------------|-----|
| Net profit | 990 |
|------------|-----|

Since the revolution, its culture is decreased, and large sums are paid for it abroad, particularly the fine madder of Zealand.

#### *Saffron.*

§ 407. This culture is much neglected; we find but a trace of it here and there among the departments. Formerly, there was cultivated in Lozere, a saffron less esteemed than that of the Gatinais, which is deemed the best.

#### *Woad, or Pastel*

§ 408. Is still cultivated near manufacturing towns. In the department Du Tarn, the culture of pastel has replaced the culture of saffron. In fact, it is only in the departments of Loiret, Seine, and Marne, that the culture of this vegetable, so useful in medicine and in dying, can be placed among the objects of agricultural industry.

#### *Annisseed and Coriander*

§ 409. Are used in making up liqueurs. They are cultivated chiefly in the southern departments. Near Paris the fields are covered with the latter.

*Tobacco.*

§ 410. Though this article is not of the first necessity, the great consumption of it renders it an object of extensive commerce, and worthy the attention of the agriculturalist. In the Pas-de-Calais, an arpent of 100 verges, will generally yield 1,600 lbs. wt. which, at 38 centimes the lb. is worth 560 francs; though the culture is costly, and the expences of excise and rent may sink one half the value of that sum, the product is more considerable still, than from an acre of the best wheat.

*Hops.—Beer.*

§ 411. The hop is cultivated in the north only, where beer is the common drink of the inhabitants. Every one knows that the flower of the hop is put into beer, to prevent corruption and improve the flavour. Except in the south, there are breweries in every city, which renders the plant an important object of agriculture. The pale beer of Louvain is celebrated, and is the chief commerce of that city. At Lier, in the department Deux Nethes, their hops have elevated the character of their beer so much as to bring it into demand in Ghent and Bruges, where much is consumed.

*Culinary Plants.*

§ 412. Peas, beans, &c. are cultivated chiefly for house use, excepting in the vicinage of cities, where they are raised for market. The green peas of Aveyron are sent to the West-Indies, and are largely consumed in the cities. The lentile is grown in the northern departments, where the soil is meagre; its fodder is excellent, either green or dry; it keeps horses fat and vigorous; cows yield much milk upon it. Sheep and hogs eat the grain eagerly, and the straw is the best in the world for the former.

Cabbages, turnips, beets, &c. are generally cultivated. They are not much used as feed for cattle, except in a few departments. From 2,240 lbs. carrots, M. Homby obtained

forty-eight pints of brandy, a sample of which was transmitted to the agricultural society of Paris, to whom this brandy appeared to be of good flavour, and limpid; the refuse was found to be good food for hogs. Artichokes are raised in some parts, in vast abundance, for the supply of Paris and other places. Asparagus is also cultivated for the same purpose. Auberoilliers, in the plain of St. Dennis, can furnish twenty-eight to thirty thousand bundles. In the vicinage of Orleans, it is planted among the vines; it is so abundant here, that it is not cultivated in the gardens of the rich. The melon and cucumber are cultivated in the open air, in the south only.

Garlick and onions; the first is used in diet in the south. At Bordeaux, Marseilles, Montpellier, Toulon, Toulouse, &c. the consumption is enormous. The onion is used every where.

Chicory is cultivated in many parts, in large quantities, and mixed with coffee, in the proportion of one half. Lettuce, spinache, and sorrel, are cultivated; they are eaten as sallads, and also dried. A distilled water is made from sorrel. It is preserved in winter, by being dried and salted. With sand it cleanses glass, and colours inlaid work.

#### *Plants.*

§. 423. *Absynthe* is cultivated in gardens, succeeds in any soil, or any climate, but has more virtue in the south. From it is made the wine, syrup, conserve, salt, extract, oil, distilled water, and some breweries use it in lieu of hops.

*Agaric* is a sort of mushroom, of which there are many sorts; that which grows on old oaks and other trees, is used to preserve fire alive in their dwellings; this stuff being macerated, is mixed with some common powder to make tinder. The agaric is employed in medicine to stop hemorrhages, after amputation. The *orange* species is a source of riches to the people on the left bank of the Loire.

*Angelica* grows naturally on the Alps, Pyrenees, and other mountains, and in gardens. It is used in medicine, the stalks

are preserved by the confectioners, for their agreeable aromatic flavour, and are good to fortify the stomach, and are in this way admitted into the desert. They afford also a liqueur.

*Aigremonia*, (*aigremonia eupatoria*) grows generally throughout France, in meadows, fields, and ditches, is used in dying.

*Argentine* (*potentilla fruticosa*), grows abundantly in humid soils. It is used in dying, and gives a soft, pliable mordant for chesnut brown, and a cosmetic wash is drawn from it.

*Arroche* (*attriplex hortensis rubra*).—It is cultivated as a culinary plant; and is used in soups; is a substitute for pepper; its leaves are used for medicine and dying.

*Aubergine*.—There are many varieties; it is ranked with the culinary; it is used fresh or dried.

*Bacile* (*fenouil marine*), grows on the coast, and is pickled in vinegar, as cucumbers.

*Bardane* grows in fat soils, yields alkaline salt, at the rate of sixteen ounces for three pounds of ashes. It is of use in medicine, for ptisans, &c.

*Basilic* is cultivated in the open field in the south, and in covert to the north; it is used as a culinary, and as an aromatic. This, with other plants, is frequently mixed by the dealers, with foreign spices, in powder, and it is used in medicine.

*Buglose*.—The large leaved buglose, always green, is cultivated in the gardens; the flowers garnish sallad.

*Betaine* (*betonica officinalis*). The dried leaves are smoked, mixed with tobacco; it is of great use in dying, and grows spontaneously.

*Thistle*.—There are three sorts; *benit*, *marie* and *foulon*. The first grows naturally in the south; it is cultivated in all the gardens, from its great use in medicine. The second is similar. The fulling thistle is largely cultivated, in the cloth countries.

*Fenouil* (*anethum fœniculum*).—The fennel, or sweet annis,

grows spontaneously in Poitou, Languedoc, and Provence, and in many gardens of France. It is used as sallad, and the grain in a liqueur called fenouillette. The confectioners introduce it into their preparations. It is used also in dying.

*Fenugrec.* (*Fragonella foecum græcum.*) It is cultivated in the fields and gardens, and is largely exported to Holland and England, for medicine and for horses.

*Strawberry* grows wild, and in the gardens. The root is used in medicine.

*Fumeterre.* (*Falmaria officinalis*)—grows in the fields and gardens; and is employed in medicine. The plants cut and dried gently, when nearly ready to flower, and steeped an hour in water, has produced a tincture which gave wood a fine yellow; superior to woad. It is used in dying the greens, to which it gives permanence.

*Houlgue.* There is two kinds of it; it is an excellent fodder.

*Mouron.* This plant is collected for the use of Canary birds kept in cages.

*Moss,* is found every where, it dries quickly and wets slowly, properties which renders it useful for bedding, &c.

*Mustard* grows naturally in Languedoc and Provence. It is sown in gardens in loose earth; at the foot of a wall, well exposed, but it grows quicker and surer in beds.

*Pimprenelle,* is the English grass burnet, and is but seldom seen.

*Poivre d'Inde* (*Capsicum annuum*) grows spontaneously in the Indies; it is raised in our gardens where it is nearly naturalized. It is, when green, preserved with sugar. It gives strength to vinegar; it is mixed with preserved cucumbers, and otherwise employed in lieu of ordinary pepper.

*Regdisse,* or liquorice, grows naturally in le Gard and PHe-rault, and the neighbouring departments; it is cultivated also in the gardens. There are three different kinds of sugar drawn from this liquorice, and the *Spanish* juice is an extract.



*Scabieuse.* This plant, introduced into our artificial meadows, is good nourishment for sheep.

*Soude.* (*Salsola Soda, Lin.*) This plant grows naturally on the borders of the sea, in the southern departments and is used for the purpose of making barilla, used in the soap and glass works, and for bleaching.

*Truffe.* The pies of Truffles are an article of great trade, for the town of Perigueux; they are sent abroad in time of peace, and even to the colonies. A single cook of Perigueux sells to the amount of 100,000 francs annually.

#### Meadows

§ 414. Are artificial or natural; the first may be considered under the head of fodder, pasturage, ameliorations and trade: the latter as fodder and pasturage.

The saintfoin, luzerne, trefoil, and other species, the grey pease, vetches, &c. are the plants generally composing artificial meadows. These plants succeed not equally well every where. The trefoil is to be found in the north, the pease only in some departments. The colza is in some parts of the north, and Pas de Calais, cultivated as fodder, and is excellent food for sheep.

The mountains of Isere, la Drome, des Hautes and Basse Alps, afford no grass but in summer; in the winter they are covered with snow. The pasturage of Bouches-du-Rhone, Var and Vaucluse, on the contrary, furnish little pasture in summer, from the nature of the soil and heat of the climate. For these reasons there departs every spring from the mouths of the Rhone and the Var 6 or 7,000,000 woolled beasts, to pasture on the mountains Isere, la Drome, de Gap, and de Barcelonette, and return again at the close of summer. This migratory system is called *transhummer*. The expense of these flocks, says citizen Michel, from their departure from their winter pasturage till their return, divided on the whole, amounts to one franc fifty centimes a head, forming a total of 900,000 francs.

On the whole it appears, that the departments of the north, offer vast and rich meadows, wherein are pastured numerous troops of all kinds of animals, day and night, and heavy crops of grass for winter.

The centre possesses also rich meadows; but the use of pastures is little known, the farms being small, the cattle are fed mostly in the stall.

In the south, the pasturage being in the mountains, herds of cattle are the main resource in these parts.

#### *Flowers.*

§ 415. The vicinage of Grasse, and the isles Hyeres, department du Var, offer a variety of odoriferous plants; the jessamine and the rose are cultivated for perfumers and essences. In 1789, Marseilles drew from the maritime Alps, for 20,000 francs in essences. In that year the perfumery exported to foreign ports, by way of Marseilles, amounted to 70,000 livres; and also, of the amount for the interior consumption, to 1,500,000 livres.

|                                 | <i>Francs.</i>  |
|---------------------------------|-----------------|
| The Var exports to Spain . . .  | 70,000          |
| Naples . . .                    | 20,000          |
| Interior . . .                  | 1,500,000       |
|                                 | <hr/> 1,590,000 |
| Drawn from Genoa and Nice . . . | 20,000          |
|                                 | <hr/> 1,570,000 |
|                                 | <hr/>           |

In the department of the Po, near Turin, this branch is of importance.

#### *Fruits and Fruit Trees.*

§ 416. France exceeds all countries in Europe in the abundance of its fruits; the orange, citron, grenadine, olive, mul-

berry, caper, fig, prune, aprieot, peach, cherries, apples, pears, quinces, raspberries, gooseberries, strawberries, &c. which are there found.

There are no gardens nor orchards in France, where we do not meet with apples and pears; they afford a drink known as cider and perry. In Normandy, this is the only drink, and in la Somme where the grape does not ripen. The countries of de Caux, lower Seine; though producing cider of a mean quality, affords apples in much esteem. Between Dieppe and Havre, are orchards worthy of attention; they are surrounded with dykes six or seven feet high, and as many broad; on these are forest trees, close set, to furnish wood for firing and building, and to protect the apples against high winds. The quantity of apples on a good tree is considerable; on a mean about ten bushels of the country, nearly thirty Paris bushels; to make a ton of *small cider*, twenty bushels is required: so that two good trees are estimated to supply a man with drink a year. Planted at eight years old, they are in full bearing at twenty-five, and they live commonly to seventy years. La Manche and le Calvados produce the best ciders, and are drank in the wine countries, when they take a fancy for this beverage.

The quantity of this article not consumed, nor made into brandy on the spot, becomes an object of commerce. Paris is the chief mart, but its consumption varies according to the abundance of wine, insomuch that the port of the Louvre which receives sometimes 12,000 muids of cider per annum, receives at other times but two or three thousand; in common it amounts to 6,000 muids a year, which, at the average price of twenty francs the hectolitre, gives a product of 480,000 francs.

The chesnut and walnut are cultivated to advantage in the south. Each chesnu tree is supposed to give a produce equal to twenty pounds of baked bread. It is a very valuable tree, its fruit is bread, its wood serves for fencing, for boat building, for vine props, planks and boards.

Though in all parts of France we meet with fruit trees, as

cherries, peaches, apricots, prunes, it is in the south that these products yield the greatest benefit. The climate, and temperature of those countries give them a decided advantage. The prunes of the same species at Paris and Castellane differ widely, the latter being more fleshy and sweet.

The Bouches du Rhone produces oil the most delicate and fine in all France; there is two kinds of olive trees cultivated. One resists the cold, the other requires a warm exposure. The first was cultivated by the Romans, and termed *litiane*; in the provincial dialect termed *aglaudan*. The species yielding the fine oil *d'Aix*, should be placed in favorite situations, and the *aglaudans* for the others.

The department of Herault presents on all sides a mixture of olives and mulberries; its oils are celebrated. Approaching Montpellier the territory is covered more and more with fruit trees. From Narbonne to Montpellier, it is a fertile valley throughout: the olives and mulberries are of the highest grade of quality. Between Montpellier and Lunel, there is a constant succession of fruits and flowers, fields covered with olives and mulberries, gardens replenished with oranges, citrons, grenadines, and meadows always verdant.

All the communes of the mouths of the Rhone are planted with olives, which forms one of the principal branches of the riches of the country. The variations that have taken place in the state of the atmosphere of these climates, and which may be attributed to the denuding the country of its woods, has rendered the temperature so little favourable to this precious tree, that it appears to languish every where. This is an enormous loss to the department, which exports, usually, 120 thousand quintals of oil, which, at forty-five francs per quintal, produces the sum of 5,400,000 francs.

The beech, after the olive, yields the largest quantity of the finest oil: it is stated that five myriagrammes of the fruit yield two myriagrammes of oil. The walnut is a grand resource in some places: its oil is in general use in the Higher Alps, the

southern part of which is covered with those trees. In Piedmont it succeeds better than the olive. The berries of the red cornel, yield an oil useful to the manufacturer; fifteen myriagrammes of berries yield two myriagrammes of oil. From the seeds of the raisin an oil is extracted, and in the Briancon, a shrub termed *prunier brianconnais*, yields an oil called oil *de Marmotte*: it is as sweet as that of an almond, but more inflammable; and it is sold at double the price of olive oil.

The fusain, or spindlewood, is an useful and agreeable shrub. Its wood is used by sculptors and musical instrument makers, and for fly brushes, and painting. The fruit is used for dying green, yellow, and red. The country people dry them in an oven, reduce them to powder, and sprinkle it on the heads of infants to kill vermin.

§ 417. France, according to Arthur Young, cultivates the vine to an extent amounting to a twenty-sixth part of her territory. Of 180 millions of acres, the vine, according to that author, occupies nearly five millions, which, at 175 francs an acre, gives a gross product of 875 millions. Into this calculation is brought the consumption of each individual, at ten centimes per day, on the population of twenty-five millions of inhabitants. He estimates the proprietor's produce at 460 millions. If the gross produce of ancient France was 5 milliards 240 millions of livres, the vine, by the calculation of Arthur Young, gives of the whole a one-sixth part.

This celebrated agriculturist has divided France, in his excellent agricultural travels, into three divisions, founded on the culture of certain remarkable vegetables, the olive, the maize, and the vine. The line of demarcation of the vine culture, according to his opinion, parts from Guerande (Loire Inferior) and prolongs obliquely, passing four or five leagues to the north-west of Paris, to Coucy, three leagues to the north of Soissons, (Aine). There is, he says, vineyards at Roche-Guyon, at Caillon, a little to the north of the line, and there are some at Beauvais; these are the most distant: there are few

to be seen between Laval, Mayence, and Angers. France, since 1787, has not, in that respect, changed; nor perhaps will it, in future. The great extent of west country, included in Picardy, Normandy, and Bretagne, appears not to be proper for the culture of the vine.

In regard to the advantages of this culture, and its produce, the author of the article vine, in the dictionary of agriculture, makes calculations, upon which he invites the government to afford the greatest encouragement to the culture of the vine, and even to give it a preference. Whatever may be the exactness of those calculations, and the solidity of the basis they rest on, we are of M. Tessier's opinion—"That government should show no preference for the vine, more than for corn. Each is sufficiently encouraged by the consumption; all that is wished is—that government should not vex them, by regulations. The government has nothing to dread whilst the corn lands are not encroached on. All the service that it can render the vineyards is, to allow a free egress to the best markets."

France, by its vineyards, compensates for the inferiority of its agriculture, in other respects; though even this grand article is short of a proper degree of perfection.

To give an idea of its actual produce, it will suffice to present, in passing from south to north, a statement of expence and actual product of an acre in the principal vineyards. In the advances are comprehended, the wages of the vigneron, expence of vine-props, manures, casks, and vintages, interest at ten per cent. on advances, indemnity for extraordinary losses, as from hail, which cannot be put at less than a tenth of the mean total price; the loss of revenue for the five years during the renewing of the vines, the expence of culture during that period, and of replanting, proportionately to the time the vine lasts. The gross produce consists of the price of the barrels of wine furnished by each acre, deducting charges.

# VEGETABLE PRODUCE.

333

## PROVENCE,

### *Territory of Marseilles and Aix.*

|  |                  |
|--|------------------|
| Gross produce, 6 2-3 barrels (240 pints a bl.) | fr. 120          |
| Advances . . . . .                             | 62 50            |
| Net produce . . . . .                          | <u>fr. 57 50</u> |

## ARMAGNAC,

### *Territory of Auch and Lectoure.*

|                                    |             |
|------------------------------------|-------------|
| Gross produce, 4 barrels . . . . . | 32          |
| Advances . . . . .                 | 27 40       |
| Net produce . . . . .              | <u>4 60</u> |

**NOTE.** The barrels or poinçons of Nantes, and other places on the river Loire, contain twelve steekans, Amsterdam measure. The ton of Cologne, Rochelle Cognac, Charente, and the Isle of Rhe, differs but little from the ton of Bordeaux. A ton of wine at Chalosse, Bayonne, and the neighbouring towns, is reckoned sixty steekans, and the barrel fifteen, Amsterdam measure.

The muid of Paris contains 150 quarts, or 300 pints, wine and lees, or 280 pints clear wine, of which muids, three make a ton.

The muid is also composed of pipes, or poinçons, quarteaux, queues, and demi queues: those poinçons of Paris and Orleans, contain about fifteen steekans, Amsterdam measure, and ought to weigh with the cask 666 lbs. a little more or less.

In Provence they reckon by millerotes, and the millerote of Toulon contains sixty-six Paris pints, or one hundred pints of Amsterdam, nearly; the Paris pint being nearly equal to the English wine quart.

Vinegar is measured in the same way as wine, but brandy differently. This spirit from France, Spain, Portugal, &c. is generally shipped in large casks, called pipes, butts, and pieces, according to their dimension. In France, brandy is shipped in casks called pieces at Bordeaux, and pipes at Rochelle, Cognac, and some neighbouring places.

In Provence and Languedoc, brandy is sold by the quintal, the casks included.

Olive oil is sold in England by the tun of 236 gallons, and at Amsterdam by the tun of 1434 pints. In Provence by millerotes of sixty-six Paris pints. In Spain by roves, where forty go to the butt.

## VEGETABLE PRODUCE.

## GUYENNE,

*Territory of Agen and Bordeaux.*

|                                       |                  |
|---------------------------------------|------------------|
| Gross produce, 4 barrels at 25 francs | 100              |
| Advances . . . . .                    | 80 50            |
| Net produce . . . . .                 | <u>fr. 19 50</u> |

We do not take the quality into consideration, whether merchant or common, as it is commonly exported to Holland and the Isles.

## DAUPHINY.

|   |                  |
|---|------------------|
| Gross produce, 9 charges, of 112 bottles each,<br>at 12 francs the charge . . . . . | 108              |
| Advances . . . . .  | 78 60            |
| Net produce . . . . .   | <u>fr. 29 40</u> |

## AUNIS.

|                                    |                 |
|------------------------------------|-----------------|
| Gross produce, 5 barrels . . . . . | 40              |
| Advances . . . . .                 | 35 50           |
| Net produce . . . . .              | <u>fr. 4 50</u> |

## BAS LIMOSIN,

*Territory of Saillant, Allasac, and Bouttesac.*

|                                    |                 |
|------------------------------------|-----------------|
| Gross produce, 5 barrels . . . . . | 150             |
| Advances . . . . .                 | 142 50          |
| Net produce . . . . .              | <u>fr. 7 50</u> |



# VEGETABLE PRODUCE.

335

## AUVERGNE.

|                                    |              |
|------------------------------------|--------------|
| Gross produce, 8 bls. at 20 francs | Fr. 160      |
| Advances . . .                     | 138 65       |
| Net produce . . .                  | <u>21 35</u> |

## LYONNAIS,

*Territory of Limonic, St. Colomb, St. Georges de Reneln, Cote Rotie.*

|                                    |               |
|------------------------------------|---------------|
| Gross produce, 15 pieces, a 50 fr. | 750           |
| Advances . . .                     | 606 30        |
| Net produce . . .                  | <u>143 70</u> |

There is no mention made here of the expence of replanting, as the propagation is by layers, in place of transplanting, but the form is not less expensive.

## FRANCHE-COMPTÉ,

*Territory of Salines, Arbois, Lons-de-Sannier, Peliogny.*

|  |           |
|--|-----------|
| Gross produce, 42 feuilletes, at 12 francs | 144       |
| Advances . . .                             | 124       |
| Net produce . . .                          | <u>20</u> |

## BERRY,

*Territory of Vatan.*

|                               |           |
|-------------------------------|-----------|
| Gross produce, 4 lbs. . . . . | 96        |
| Advances . . . . .            | 95 90     |
| Net produce . . . . .         | <u>10</u> |

## VEGETABLE PRODUCE.

## NIVERNAIS,

*Territories of Pouilly, Irancy, and Mesvres.*

|                        |       |              |
|------------------------|-------|--------------|
| Gross produce, 19 bls. | .     | Fr. 427      |
| Advances               | . . . | 331 70       |
| Net produce            | . . . | <u>95 30</u> |

## TERRITORY OF CLAMECY.

|                       |       |              |
|-----------------------|-------|--------------|
| Gross produce, 5 lbs. | . . . | 150          |
| Advances              | . . . | 127 50       |
| Net produce           | . . . | <u>22 50</u> |

BOURGOGNE, (*Cote D'Or,*)*Territory of Chalons-Sur-Saone, Beaune and Dijon.*

|  |                 |
|--|-----------------|
| Gross produce, 3 bls. or a queue and a half,<br>or 6 feuilletes, at 150 fr. the 4 feuilletes | 225             |
| Advances   | . . . 136       |
| Net produce  | . . . <u>89</u> |

In the high Bourgogne, the wines are not so high priced as we have rated them, but the quantity compensates for the quality, and the revenue per acre is nearly the same.

## BOURGOGNE,

*Departments Cote-d'Or, and Yonne—territories of Semur and Avallon.*

|                       |       |              |
|-----------------------|-------|--------------|
| Gross produce, 6 bls. | . . . | 450          |
| Advances              | . . . | 106 30       |
| Net produce           | . . . | <u>43 70</u> |

# VEGETABLE PRODUCE.

S. Y

## TERRITORY OF AUXERRE.

|                      |   |            |
|----------------------|---|------------|
| Gross produce 5 bls. | . | Fr. 400    |
| Advances             | . | 278        |
| Net produce          | . | <u>127</u> |

## TOURAIN.

|   |   |              |
|---|---|--------------|
| Gross produce, 4 bls. first quality, or vin<br><i>noble</i> | . | 160          |
| Advances  | . | 121 90       |
| Net produce   | . | <u>38 10</u> |

## DEPARTMENT DU RHONE.

*The same.*

## ANJOU.

|                       |   |             |
|-----------------------|---|-------------|
| Gross produce, 3 bls. | . | 72          |
| Advances              | . | 64 40       |
| Net produce           | . | <u>7 60</u> |

## BLAIS—TERRITORY OF BLOIS.

|                       |   |           |
|-----------------------|---|-----------|
| Gross produce, 6 bls. | . | 210       |
| Advances              | . | 215       |
| Net produce           | . | <u>25</u> |

We speak here only of wines of the first quality, which are generally rare in this department. The net produce of most part of the vines of this territory is next to nothing, perhaps because they are cultivated in the small way.

## VEGETABLE PRODUCE.

## TERRITORY OF VENDOME.

|                        |   |   |           |
|------------------------|---|---|-----------|
| Gross produce, 10 bls. | . | . | Fr. 200   |
| Advances               | . | . | 170       |
| Net produce            | . | . | <u>30</u> |

## DEPARTMENT DU LOIRET—ORLEANNAIS,

*Territory of Orleans.*

|                       |   |   |              |
|-----------------------|---|---|--------------|
| Gross produce, 6 bls. | . | . | 180          |
| Advances              | . | . | 144 90       |
| Net produce           | . | . | <u>35 10</u> |

## TERRITORY OF GIEN—SOLOGNE.

|                       |   |   |             |
|-----------------------|---|---|-------------|
| Gross produce, 4 bls. | . | . | 100         |
| Advances              | . | . | 93 30       |
| Net produce           | . | . | <u>6 70</u> |

## TERRITORY OF ROMORANTIN—SOLOGNE.

|                        |   |   |              |
|------------------------|---|---|--------------|
| Gross produce, 12 bls. | . | . | 240          |
| Advances               | . | . | 206 30       |
| Net produce            | . | . | <u>33 70</u> |

## TERRITORY OF PITHIVRE AND MONTARGIS—GATINOIS.

|                       |   |   |             |
|-----------------------|---|---|-------------|
| Gross produce, 6 bls. | . | . | 150         |
| Advances              | . | . | 141 80      |
| Net produce           | . | . | <u>8 20</u> |

# VEGETABLE PRODUCE.

359

## DEPARTMENT DE LA SARTHE—MAINE.

|                       |   |   |              |
|-----------------------|---|---|--------------|
| Gross produce, 5 bls. | . | . | Fr. 120      |
| Advances              | . | . | 84 30        |
| Net produce           | . | . | <u>38 70</u> |

## DEPARTMENT Eure AND LOIR—BEAUCÉ, *Territory of Chartres.*

|                       |   |   |           |
|-----------------------|---|---|-----------|
| Gross produce, 8 bls. | . | . | 320       |
| Advances              | . | . | 254       |
| Net produce           | . | . | <u>66</u> |

## TERRITORY OF CHATEAUDUN.

|                       |   |   |              |
|-----------------------|---|---|--------------|
| Gross produce, 6 bls. | . | . | 180          |
| Advances              | . | . | 160 25       |
| Net produce           | . | . | <u>19 65</u> |

## DEPARTMENT DE LA SEINE—ISLE DE FRANCE, *Territory near Paris.*

|                        |   |   |              |
|------------------------|---|---|--------------|
| Gross produce, 12 bls. | . | . | 480          |
| Advances               | . | . | 381 30       |
| Net produce            | . | . | <u>98 70</u> |

## DEPARTMENT DE LA MARNE—CHAMPAGNE.

|                       |   |   |              |
|-----------------------|---|---|--------------|
| Gross produce, 5 bls. | . | . | 250          |
| Advances              | . | . | 216 95       |
| Net produce           | . | . | <u>33 05</u> |

The superior wines produce much more than the common:  
the expences of culture are the same.

## DEPARTMENT DE L' AISNE—SOISSONNAIS.

|               |           |              |
|---------------|-----------|--------------|
| Gross produce | . . . . . | Fr. 250      |
| Advances      | . . . . . | 204 30       |
| Net produce   | . . . . . | <u>45 70</u> |

If the productions of the vine do not hold the first rank, they hold at least the second, in the scale of our territorial riches. The consumption of wine, is immense in France, and the export is also considerable. We shall examine this hereafter.

It is difficult to give exactly the quantity of wine produced in France; every year producing changes: the vine land is sown with grain, or the corn lands planted with vines. The same quantity of vines will not always furnish the same quantity of wine; so the opinions of writers, on this subject, are various. We may at any rate suppose the quantity must be immense, with a population of about 35 millions of people, nearly three-fourths of whom use wine, and when we also consider the quantity of brandy consumed daily, the vinegar, and the exports of it. M. Vauban estimates the quantity of wine to a vintage in France, by the number of acres under tillage, at 36 millions of muids (of sixty gallons) in a common year: but this estimate like most others of this author, is too high. The Abbe D'Expilly, in taking the same basis of calculation, allows but 6 millions 400 thousand muids; and this appears to be small, for it cannot be, deduction being made for exportation, that the eighth of a pint is near the consumption daily of an individual, in supposing as some authors say, that the interior consumption is equal to the exportation.

The author of "Political Studies" who has followed the method founded on the extent of consumption, gives not a more satisfactory result. He rates the daily consumption at a quarter of a pint, which gives 7 millions 603 thousand 680 muids per annum. If to this is added, an equal quantity for exportation and three millions of muids for brandies and vinegar, the annual crop will then give 18,207,360 muids of wine. M. Lavosier carries it no higher than 7,203,125 muids,

|   |   |   |   |   |                   |
|---|---|---|---|---|-------------------|
| <b>M. Expilly</b>                                   | . | . | . | . | <b>6,400,000</b>  |
| <b>Author of the Study of Politics</b>              | . | . | . | . | <b>18,207,360</b> |
| <b>Author of Commercial and Agricultural France</b> | . | . | . | . | <b>7,603,680</b>  |
| <b>M. Lavosier</b>                                  | . | . | . | . | <b>7,203,125</b>  |

**The mean would be . Muids 15,082,893**

**Or, hectolitres . 41,327,126**

The wines the best known and most esteemed in France, are those of Bourgogne, Champagne, Bourdeaux, Anjou, Orlenais, Poitou, &c. Those large vinyards give the first quality, very well known under particular names, and enjoy more or less reputation.

France enjoys, in its wines, an assured branch of commerce; nor can any power enter into rivalry with her. With the exception of the wines harvested in Portugal, in the provinces of Minho, and Du Duro, under the name of *Port*, and

the Hungary wines, no power in Europe, we repeat, can introduce its wines into the balance of commerce. The wines commonly called *vin de liqueurs*, offer little resource for export, as those brought from the Azores, amount to no more than six thousand hectolitres, whether Madeira, Malmsey, or Fayal. Those of the Archipelago, or of Spain, as Malaga, Sherry, Rota, and Alicant, are mingled with the foregoing, and create no jealousy in trade. The Cape and Constantia wines are rare, and those of Italy are drank at home.

## TABLE

§ 418. Exhibiting a statement of wines exported from France, at the beginning of the last century.

Mean year, 1720 till 1725.

| NAMES OF THE WINES.            | VALUE      |               |
|--------------------------------|------------|---------------|
|                                | Abroad.    | The Colonies. |
| Amount descending the river    |            |               |
| Loire to Nantes . . . . .      | .          | fr. 519,200   |
| Sundries . . . . .             | 281,300    |               |
| D'Aunis . . . . .              | 48,000     |               |
| Bearn and Gascony . . . . .    | 553,000    |               |
| Bordeaux and Guienne . . . . . | 14,901,300 | 1,395,000     |
| Bourgogne . . . . .            | 1,522,600  |               |
| D'Arbois . . . . .             | 13,700     |               |
| D'Beaune . . . . .             | 36,500     |               |
| Cote Rotie . . . . .           | 21,000     |               |
| Champagne . . . . .            | 657,500    | 13,000        |
| Languedoc . . . . .            | 94,400     |               |
| Lyonnais . . . . .             | 10,500     |               |
| Nantais . . . . .              | 91,100     |               |
| Orleans . . . . .              | 3,400      |               |
| Provence . . . . .             | 679,200    |               |
| Roussillon . . . . .           | 15,700     |               |
| Liqueurs . . . . .             | 6,100      | 22,700        |
| Total fr.                      | 19,168,200 | 1,712,000     |



# VEGETABLE PRODUCE.

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TABLE.

Statement of the wines exported from France, in 1778

| WINES.            | COUNTRIES.    | VALUE.      | TOTAL.    |
|-------------------|---------------|-------------|-----------|
| <i>Bourgogne,</i> | Germany       | fr. 274,919 |           |
|                   | England       | 48,325      |           |
|                   | Denmark       | 10,254      |           |
|                   | Flanders      | 286,078     |           |
|                   | Holland       | 6,474       |           |
|                   | North         | 8,308       |           |
|                   | Russia        | 14,325      |           |
|                   | Sweden        | 4,650       |           |
|                   | Switzerland   | 16,313      |           |
|                   | Geneva        | 6,050       |           |
|                   |               |             | 675,696   |
| <i>Champagne,</i> | Germany       | 802,362     |           |
|                   | England       | 113,402     |           |
|                   | Denmark       | 26,425      |           |
|                   | Flanders      | 319,432     |           |
|                   | Holland       | 27,228      |           |
|                   | North         | 48,295      |           |
|                   | Russia        | 60,500      |           |
|                   | Sweden        | 1,900       |           |
|                   | Isles         | 1,896       |           |
|                   | Italy         | 2,787       |           |
|                   | Switzerland   | 7,854       |           |
|                   |               |             | 1,441,692 |
| <i>Bordeaux,</i>  | Germany.      | 4,000       |           |
|                   | England       | 1,354,875   |           |
|                   | Denmark:      | 226,825     |           |
|                   | Spain         | 163,300     |           |
|                   | North         | 4,371,533   |           |
|                   | Portugal      | 5,100       |           |
|                   | U. S. America | 14,433      |           |
|                   | Isles         | 2,510,600   |           |
|                   | Guinea        | 170,325     |           |

## VEGETABLE PRODUCE.

| WINEs.              | COUNTRIES.      | VALUE.    | TOTAL.     |
|---------------------|-----------------|-----------|------------|
|                     | Russia .        | 48,725    |            |
|                     | Sweden .        | 432,400   |            |
|                     | Flanders .      | 191,450   |            |
|                     | Holland .       | 5,234,625 |            |
|                     |                 | <hr/>     | 16,737,189 |
| <i>D'Aumont,</i>    | Germany .       | 126,721   |            |
|                     | Flanders .      | 406,694   |            |
|                     | Holland .       | 137,250   |            |
|                     |                 | <hr/>     | 670,665    |
| <i>D'Aubagne,</i>   | Isles .         | 4,680     |            |
|                     |                 | <hr/>     | 4,680      |
| <i>De Charente,</i> | Flanders .      | 34,185    |            |
|                     | Holland .       | 26,694    |            |
|                     |                 | <hr/>     | 60,879     |
| <i>De Comte,</i>    | Swiss .         | 15,472    |            |
|                     |                 | <hr/>     | 15,472     |
| <i>Dauphiny,</i>    | Savoy .         | 1,155     |            |
|                     |                 | <hr/>     | 1,155      |
| <i>Francais,</i>    | Denmark .       | 13,200    |            |
|                     | Spain .         | 3,085     |            |
|                     | Flanders .      | 65,925    |            |
|                     | Holland .       | 17,555    |            |
|                     | Portugal .      | 1,875     |            |
|                     | Isles .         | 11,475    |            |
|                     | Nord .          | 173,737   |            |
|                     |                 | <hr/>     | 286,352    |
| <i>Frontignac,</i>  | England .       | 1,584     |            |
|                     |                 | <hr/>     | 1,584      |
| <i>Languedoc,</i>   | Sweden .        | 520,300   |            |
|                     | Islands .       | 9,900     |            |
|                     |                 | <hr/>     | 530,200    |
| <i>Rochelle,</i>    | U. S. America . | 13,760    |            |
|                     |                 | <hr/>     | 13,760     |
| <i>Liqueurs,</i>    | Germany .       | 2,599     |            |
|                     | England .       | 1,500     |            |
|                     | Islands .       | 4,809     |            |
|                     |                 | <hr/>     | 8,908      |
| <i>Nantais,</i>     | Germany .       | 151,419   |            |
|                     | Flanders .      | 24,750    |            |

# VEGETABLE PRODUCE.

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| WINEs.            | COUNTRIES. | VALUE.  | TOTAL.    |
|-------------------|------------|---------|-----------|
|                   | Holland .  | 3,100   |           |
| <i>Nantais</i>    | North .    | 1,080   |           |
|                   |            | <hr/>   | 180,340   |
| <i>D'Oleron,</i>  | Guinea .   | 1,040   |           |
|                   |            | <hr/>   | 1,040     |
| <i>Ordinary,</i>  | Germany .  | 6,970   |           |
|                   | England .  | 4,151   |           |
|                   | Denmark .  | 520,652 |           |
|                   | Flanders . | 260,550 |           |
|                   | Holland .  | 4,072   |           |
|                   | North .    | 10,467  |           |
|                   | Russia .   | 2,925   |           |
|                   | Sweden .   | 1,050   |           |
|                   | Islands .  | 57,067  |           |
|                   | Guinea .   | 44,029  |           |
|                   | India .    | 634,576 |           |
|                   |            | <hr/>   | 1,546,509 |
| <i>De Quercy,</i> | Islands .  | 1,200   |           |
|                   |            | <hr/>   | 1,200     |
| <i>Provence,</i>  | Genoa .    | 2,695   |           |
|                   | Savoy .    | 2,121   |           |
|                   | Sweden .   | 2,198   |           |
|                   | Islands .  | 445,836 |           |
|                   | India .    | 17,484  |           |
|                   |            | <hr/>   | 469,534   |
| <i>De Re,</i>     | Denmark .  | 7,650   |           |
|                   | Holland .  | 93,600  |           |
|                   | Nord .     | 156,825 |           |
|                   |            | <hr/>   | 258,075   |
| <i>Rouges,</i>    | Spain .    | 37,845  |           |
|                   | Flanders . | 2,160   |           |
|                   | Holland .  | 828,798 |           |
|                   | Italy .    | 151,319 |           |
|                   | Naples .   | 1,957   |           |
|                   | Genoa .    | 38,722  |           |
|                   | Levant .   | 28,862  |           |
|                   | Nord .     | 217,354 |           |
|                   |            | <hr/>   | 1,307,029 |

## VEGETABLE PRODUCE.

| WINES.             | COUNTRIES. | VALUE.               | TOTAL.  |
|--------------------|------------|----------------------|---------|
| <i>Rouge,</i>      | Savoy .    | 55,518               |         |
| <i>Roussillon,</i> | Italy .    | 330,400              | 55,518  |
| <i>Saintonge,</i>  | Islands .  | 1,800                | 330,400 |
|                    |            |                      | 1,800   |
|                    |            | Total fr. 24,570,170 |         |

Statement of the wines exported from France at the close of the last century, (1788).—

| NAMES OF WINES.      | ABROAD.    | IN THE COLONIES. |
|----------------------|------------|------------------|
| Various sorts .      | 143,300    | 2,370,400        |
| Anjou .              | 349,500    |                  |
| Bearn and Gascony    | 849,300    |                  |
| Bordeaux and Guienne | 13,768,700 | 6,278,700        |
| Burgogne .           | 1,306,700  |                  |
| Bresse .             | 18,800     |                  |
| Bugey .              | 431,600    |                  |
| Chalosse .           | 1,065,500  |                  |
| Champagne .          | 851,900    |                  |
| Franche Comte .      | 749,000    |                  |
| Dauphiny .           | 124,900    |                  |
| Languedoc .          | 1,209,500  |                  |
| Lyonnais .           | 47,000     |                  |
| Nantais .            | 232,900    |                  |
| Orleans .            | 6,800      |                  |
| Provence .           | 2,944,800  |                  |
| Roussillon .         | 87,300     |                  |
| Saintonge .          | 10,400     |                  |
| Vivaraïs .           | 102,000    |                  |
| Liqueurs .           | 58,600     | 85,500           |
| Total fr. 24,297,500 |            | 8,784,600        |

The wines *de liqueur* most esteemed in France, are those of Ciotat and Saint Laurent, in Provence.

The wine of Frontignac (Herault) is the most perfect of all the wines *de liqueur* of Languedoc, and keeps the longest; it even improves by keeping, and is not factitious, as has been said.

The Muscat of Lunel, in the same department, is, perhaps, of a preferable taste; but it does not keep as well as the Frontignac. That of Rivesaltes has more vigor and maturity; it approaches to the quality of the Cape wine. There is no red wine of Rivesaltes. The red muscat is rarer and dearer than the white. The muscat of Beziers is inferior to those of Frontignac, Rivesaltes, and Lunel.

§ 419. *Brandies*.—Those of France are esteemed the best in Europe. Wherever there is wine made, there is more or less brandy distilled. It is made either from wine soured, or of good quality. The most esteemed are those of Nantes and Poitou, which are of the same quality. It is those sorts that are sent abroad in large quantities. Those of Orleans, Anjou, Tourain, principally pass into Flanders, by the Loire.

The exportation of brandy, in a common year, between 1720 and 1725, has been—

|                      |   |   |               |
|----------------------|---|---|---------------|
| To foreign countries | . | . | fr. 5,365,300 |
| To the colonies      | . | . | 487,600       |
| Total                |   |   | fr. 5,852,900 |

Those of 1773 have been, for—

|          |         |               |               |
|----------|---------|---------------|---------------|
| Germany  | 116,771 | North         | 384,300       |
| England  | 555,426 | Russia        | 21,600        |
| Denmark  | 178,257 | Savoy         | 17,962        |
| Spain    | 276,403 | Sweden        | 147,239       |
| Flanders | 531,827 | Switzerland   | 7,980         |
| Geneva   | 1,417   | U. S. America | 9,026         |
| Holland  | 744,606 | Islands       | 270,263       |
| Italy    | 155,424 | Guinea        | 80,418        |
| Levant   | 1,140   | India         | 52,715        |
| Total    |         |               | fr. 3,352,774 |

§ 420. The export of *Liqueurs*, in the same year, was—

|          |        |           |         |
|----------|--------|-----------|---------|
| England  | 1,050  | Levant    | 42,850  |
| Spain    | 49,766 | Savoy     | 11,397  |
| Denmark  | 10,274 | Sweden    | 10,992  |
| Flanders | 2,378  | Islands   | 489,115 |
| Holland  | 22,391 | Guinea    | 4,659   |
| Italy    | 34,509 | India     | 16,716  |
| Naples   | 9,500  |           |         |
| Geneva   | 1,850  | Total fr. | 707,447 |

During the year 1784, there was exported—

Of brandy . . . . . Ls. 11,036,200

In the year 1787, the export was . . . 14,455,600

Spirit of wine . . . . . 144,700

Liqueurs fabricated with brandy . . . 234,000

In the year 1788, the export was . . . 12,582,200

And for the colonies exclusively . . . 2,075,100

§ 421. *Vinegar*. That of Orleans is accounted the best made in France; the exports of this article in a common year, 1720 to 1725, have been to foreign countries 33,400 livres, and the colonies 1,000 livres.

In the year 1778, they have been, for—

|          |               |               |         |
|----------|---------------|---------------|---------|
| Germany  | 2,144 livres. | Holland       | 28,460  |
| England  | 6,870         | Italy         | 1,374   |
| Denmark  | 5,107         | North         | 28,915  |
| Spain    | 2,630         | Russia        | 1,950   |
| Flanders | 8,726         | Sweden        | 3,460   |
| Islands  | 52,267        |               |         |
|          |               | Total livres. | 141,898 |

The chief riches of l'Angoumois, which forms the greatest part of the department of Charente, consists in the be-

neft derived from the sale of its wines, and its brandies especially. It exports in a common year, 35,000 barrels of wine; each barrel containing thirty vells, of eight pints of Paris.

The best vineyards are those of Cognac and Angouleme. The ancient district of Cognac collects 2,500 tons of wine, of all sorts. The ton *de grande borderie*, is worth commonly about

|            |     |            |
|------------|-----|------------|
|            |     | 200 francs |
| de Moyenne | do. | 170        |
| de Petite  | do. | 140        |

§ 422. The white wines are almost all converted into brandy. Cognac distils about 20,000 barrels, from whence it draws 13,400 pipes of brandy: in abundant years this quantity may be doubled. When the wines are weak, it requires six barrels to make one of brandy; when they are tolerably good, nine barrels of wine make two. The brandy of Cognac is highly esteemed; in time of peace it passes nearly all abroad.

Bourgogne comprises different departments; but each is not equally interesting, as to vines. Those of the Cote d'Or, which takes its name from its being the most valuable part of Bourgogne, are the most remarkable.

This province includes various small fertile districts, but not in the same productions. The Auxois gather but few wines, though the commerce of that article is considerable enough at Auxonne and Avalon; but those cities should be regarded as the depots of the wines of the Maconnais, from whence they issue for Lorraine and Franche Comte.

The Chalonnais is above all fertile in wine. The mountain sides which extend in a circular form towards Beaune, and into the Maconnais, are covered with vines.

The Charollais has vines on all sides.

The Dijonnais abounds in vines of the first quality, and contains rich hills.

Beaune, in the Dijonnais comprehends, besides the territory of that name, several others, as Vesnes, Vougeot, &c. This city is the entrepot of all the wines shipt abroad.

The *Cote Nuitonne*, on the hill of Nuits, is of five leagues extent. The wines are distinguished into first and second head of the tub, from those called *ronde* and *de vigneron*. Those delicious wines are transported every where, and give the little town of Nuits a considerable commercial rank. The wines of Nuitonne are said to be superior to all the other cantons, at any rate, they fetch a higher price. Le Chambolles is here, and le Volnay in Beaune. Le Mont Rachet and Le Romanne are two plats of small dimensions; these two sorts of wines, the most sought for of any in Bourgogne, are generally a third higher than those of Vougeot and de Chambertin.

Le Maconnais collects wine in about forty parishes, situated chiefly on the side fronting to the east along the Saone. The fine wines as those of Riceys, are bought up for Flanders, Paris and Picardy; the ordinary for Bassigny, Champagne, and Lorraine. In general the wines of the Maconnais, and those of the Chalonuais are very inferior to the other wines of Haute-Bourgogne, they send but few of them abroad.

Bourgogne is distinguished in regard to its wines, into high and low. The wines of the latter are preferred in dry seasons by dealers and connoisseurs; but there is not more than one year of dryness to ten of humidity. However, its wines are bought up by the merchants of Paris, Normans and Flemings, who always sell them for the wines of High Bourgogne. The wines of Low Bourgogne vary in price, according to quantity and quality: the *tete* is sold, whether red or white, from two hundred to three hundred francs; those of the second quality go from sixty to two hundred francs the kilolitre (muid).

The wine of Valnay is the most delicate, and is what our dealers call the *le plus de primeur*; but if they are in the greatest request, they are generally unfit to keep long. The Pommar, Beaune, Saigny, Aloze, Chassagne, Nuits, Vougeot and



**Chambertin.** The last seven have more colour than those of Volnay and Pomard; they are said also to sustain the sea better. The wines of Bourgogne however support difficultly, in casks, long voyages at sea. When they are shipt to the Baltic, they are always bottled, and notwithstanding this precaution, they are sometimes found altered.

To enable the reader to judge of the quality of the wines of Bourgogne, and of their relative value in trade, we shall give the division into three classes.

The first to be noticed, are those of a quality superior to all others, and that enter not into commerce. They remain, as we may say, in the hands of rich proprietors of territories, who use them.

They are thus distinguished—

*Le Romani*—From a hill depending on the territory of Vosnes.

*Le Mont Rache Blanc*—From a hill in the estates of Chagny and de Puligny.

*Le Chambertin*—From a hill on the estate of Geuvray.

*Le Clos de Vougeot*—From the estate of Flagey.

*Le St. George* and *Le Richebourg*—From two hills of Vosnes

*Wines of the first rate*

|           |         |         |
|-----------|---------|---------|
| Vosnes    | Volney  | Auxerre |
| Vougeot   | Geuvray | Pomard  |
| Nuits     | Cortot  | Beaune  |
| Chassagne |         |         |

These are the wines best known in Bourgogne; they are equal to the former when they acquire the maturity that is necessary to them: for all the first rate wines require to be kept a long time.

*Wines of the second rate.*

|         |          |                 |
|---------|----------|-----------------|
| Savigny | Mercurey | Mursault, blanc |
| Puligny | Santenay | Mursault, rouge |

|            |            |         |
|------------|------------|---------|
| Chambolles | Tout Grain | Alose   |
| Cravant    | Morey      | Chénove |
| Pernant    | Anverre.   |         |

*Wines of the third rate.*

|                |               |                  |
|----------------|---------------|------------------|
| Les Marcs d'or | Les Violettes | Les Pomeaux      |
| Dijon          | Macon         | Coulanges        |
| Tonnerre       | Rully         | Crois de Pouilly |
| Chablis        | Givry         | Vermanton        |
| Irancy         | Avalon.       |                  |

The first quality wines, known under the appellation *Hermitage*, are exported at high prices to England, and the north of Europe. They grow in the department de la Drome, between Valence and St. Vallier; are very agreeable, though a little rough.

In the department of La Gironde, there is but little white wine, and what is obtained is but little esteemed. But the red wine is light, excellent, and enjoys a well merited reputation, under the name of *Vin de Bordeaux*. They are in the habit of grafting in this department, which is said to ameliorate the quality of the wine. Those which hold the first rank among the red, are known under the generic names of Medoc, Haut Brion, St. Emilion, De Grave, &c. of the Medoc, the most esteemed, are the Latour, Lafitte, and Margaux. A part of the best Medoc is sent to England. The most esteemed of the Grave wines, sent abroad to all countries, are those of Haut Brion, Merignac, Haut Talence, Persac, Langon Villenave, &c. The wines of Cantenac, Pouillac, St. Mambert, St. Julien, St. Estephe, St. Laurent, Ludon, Macau, without enjoying the reputation of the preceding, are often equal in quality. None of these wines resemble those of Bourgogne or Champagne; they have a specific excellence, peculiar to themselves.

Those which hold the first rank among the white wines are Carbonnieux, Serons, Barsac, Prignac, Sauterne, Baume, St. Croix-du-Mont. Besides these, we distinguish those of

Palus, known under the names of Queyries, Montferrant, &c. which keep well during the longest voyages. The vins de Grave, white and red, are consumed in France; those of Palus are chiefly embarked for India, the colonies, &c.

It has been estimated, that the seneschalship of Bordeaux gathers, in a common year, 200,000 tons of wine; half of which is exported; 40,000 consumed in Bordeaux and vicinity, the surplus in the country around. The brandies of Bordeaux are famous also. The factories of vinegar are numerous at Bordeaux, some of them make, annually, 500 or 600 tons. The exports may amount to 6,000 tons.

The wine trade of Bordeaux is not confined merely to those of its territory. It comprehends those brought from Languedoc, Quercy, Perigord, Rousillon, &c.: those of Languedoc amount to nearly a thousand tons of white, being inferior in quality to those of Bordeaux; the price is also lower.

Though the wines of Orleans have not such repute as those of Bourgogne, they are yet in esteem, particularly those of St. Denis-en-Val, de Saint Jean-de-Braye, de la Chapelle, de Tourneaux, de St. Ay, du Blamais, de Beaugeney, of red; and of white, St. Mesmin, Marigny, Checy, Rebrechien. The first is a wine, delicate and but little coloured; those of the other cantons are more or less inferior. The wines of Orleans are said to become *gros* (fat) or *ropy*. These wines go, for the most part, to Paris by land carriage, or the canal of Orleans, and some descend the Loire. The brandies and vinegar of this city have much reputation. Orleans may be regarded as the entrepot of the brandies of Angoumois, Saintonge, Poitou, and particularly of Cognac, Chinon, Saumur, and Blois.

The excellent red wine, known by the name of *La Montagne*, is the growth of the territory of Rheims. It is raised on the hills of Versenay, Bouzy, Taissy, Sillery, Versy, Mailly, &c. The arpent of vines is worth at Rheims from 500 to 1,000 francs: the planting costs 1,200 francs: they put 8,000

plants to the acre, and 24,000 slips: the props are worth 500 francs; the support of them costs 30 francs per annum. The vine is three years old before bearing; and it is not until the vine is six years old, that it imparts to the wine all the excellence of which it is capable.

Epernay is the centre of the best vineyards of Champagne. Its wines, those of D'Ay and its vicinage, are of superior quality. The commerce of this city is not confined to the wines of its own territory; it extends to those of D'Ay, Hautvilliers, Pierry, Cumieres, which are not distant from it. Chateau-Thierry is chiefly in repute for its trade in wines with Paris.

The wines of Champagne are divided into three principal classes, viz.—

#### FIRST CLASS.

##### *White Wines.*

Mareuil-Sous-Ay  
Ay  
Hautvilliers  
Pierry  
Crament

##### *Red Wines.*

Verzieto  
Versenay  
Bouzy  
Taisy  
Cumieres

#### SECOND CLASS.

Avenay  
Epernay  
Le Mesnil  
Avis and Oger

Mailly  
Damery  
Epernay  
Rilly  
Montbret  
Ay  
Pierry

#### THIRD CLASS.

Tonnerre  
Chably  
Ludes  
Sadre

Joigny  
Tonnerre  
Chamery  
Ville-Dommage

THIRD CLASS.

*White Wines.*

Trois Puits

Villers-Alleray

*Red Wines.*

Pargny

Sapicourt

The last are used most generally in France.

The wines *Monsaugemmois* are delicate, and keep well; Paris, Flanders, and Lorraine, take up the major part.

In the department of La Meurthe, the best plants of this department are the same as those of Bourgogne and Champagne. The best wines grow on the stony hills. Notwithstanding their fruitfulness, they export but little. Since they have ascertained the advantage of planting the coarser vines, they have abandoned the finer sorts, finding quantity of more equivalent profit than quality. The hills which form a part of the bason *De la Meurthe*, furnish excellent wines; very fine vineyards are found in many cantons.

The white wine of Pouilly, department of La Nievre, is of note.

The red wine of Monneins (Lower Pyrennees) is much sought; it retains all its quality at the end of two years: it is all sent abroad: inferior wine only is drank in the country. The neighbourhood of Oleron, de Navarrens, de Sauveterne, &c. furnish also good wine.

The wines of Perpignan, and in general all the wines of the Eastern Pyrennees, are more or less excellent: they are of deep colour, heady, warm, and of an agreeable taste. The common wines of Rousillon support carriage very well; some are sent to the islands, others serve to colour white wines, or to force the colour of red wine, and to give them quality and strength.

There is made there a wine called *Grenache*; it resembles the strong wine of Alicant, in its first year; at two or three, it resembles Rota; at seven, it is said to have the taste and colour of Cape wine, insomuch as to deceive the connoisseurs.

The most precious and delicate of the wines of Rousillon, is

the *Maccabee*; it is named from a grape of the name, originally from Spain, from whence it has been brought to Salces: there is hardly 2,000 bottles of it raised: it resembles Hungary wine, and approaches Tokay.

In the department of the Rhone, the plantations of vines are very numerous, and are the principal resource, and only object of export. The qualities are as various as the estates producing them; but they may be classed under two heads—the *luscious* and the *dry*.

The first, most esteemed and most known, are those of Condrieux and St. Michael, known as *Vins-de-Condrieux*. The dry wines of Cote-Rotie, have most reputation; it is sold all over France, and sent abroad. The wines of St. Foy hold the second rank. Those of Irigny, Charly, Millery, and generally all those of the bank of the Rhone, are much esteemed. The territory of Barolles produces wine of esteem. Those of Couzon, and the hills which border the Saone, are of very good quality, after some years keeping. Many of these wines are faulty, from being green, luscious, earthy, or heady. The hard earthy taste is the worst of all; the other faults diminish with time.

The wines of Mont d'Or, so celebrated amongst the Romans, are no longer in request.

The red wines of *La Moselle* are much esteemed, and very agreeable: they are an important object of commerce with Holland and Germany.

In the department of the Seine, but little wine is raised. According to the statement of Lavoisier, there was consumed at Paris, in a common year, before the revolution—

|                                 |                    |
|---------------------------------|--------------------|
| In common wines, fr. 32,500,000 | Kilolitres 250,000 |
| In vin de liqueur . . . .       | 1,000              |
| In brandy fr. 2,400,000 . . . . | 8,000              |
| In vinegar fr. 400,000 . . . .  | 4,000              |

NOTE. The kilolitre is 1,050 pints French, equal, nearly, to an American quart each.

## WOOD AND FOREST.

§ 423. M. Necker and Arthur Young have estimated the totality of the woods of France (ancient limits) at 22,289,916 acres, or nearly 11,144,508 hectares.

Bonvalet-de-Brosses estimates, for the domains only, to the extent of—

|                           | <i>Arpents.</i> | <i>Per.</i> |
|---------------------------|-----------------|-------------|
| Forests, full grown . . . | 1,486,356       | 52½         |
| Undergrowth . . .         | 3,755,748       | 82½         |
|                           | <hr/> 5,242,105 | <hr/> 35    |

These statements have been taxed with exaggeration, by all the economists. From the materials collected by the committee on domains, in the constituent assembly, the following results have been obtained, viz.—

|                                | <i>Arpents.</i>  | <i>Per.</i> |
|--------------------------------|------------------|-------------|
| Domains, in wood . . .         | 3,338,261        | 60          |
| Communes, their woods . . .    | 2,202,134        | 48          |
| Individuals, their woods . . . | 7,560,295        |             |
|                                | <hr/> 13,100,691 | <hr/> 8     |

This estimate seems to merit more confidence than the preceding, and to be supported by the best data and evidence. In fact, the maps laid down by D'Acosta, gives but twelve millions of arpents of woods and forests; but as these maps have not marked any quantities, and omitted in the estimate the small skirts scattered here and there, and we may presume a million of acres in extent, from these portions, so that the maps shall coincide with the researches of the constituent assembly, and as this supposition involves no exaggeration, it is admitted by

Lavoisier and Varennes Fenille, whose authority in these matters cannot be contested.

Holding to this calculation, the quantity of 13,100,169 arpents of woods, of all descriptions, the annual produce of which, as valued by the two beforementioned authors, at 120 millions of francs. In extending its bounds towards Italy, Switzerland, and the Rhine, the republic has added considerably to its ancient property in this kind; but in many of these new departments, the same cause of devastation exist.

If the annexation of several grand provinces, give to France additional resources in timber, yet they have not added as much as might be supposed to the ancient stock. This may be readily accounted for by the licence afforded by the revolution, to all manner of dilapidations, insomuch that the numerical results stand nearly as before, including the new acquisitions.

The administration of the forests of France is divided into twenty-eight conservations.—

|               | <i>Contents in Hectares.</i> |   |         |
|---------------|------------------------------|---|---------|
| Paris         | .                            | . | 121,680 |
| Troies        | .                            | . | 161,000 |
| Rouen         | .                            | . | 98,500  |
| Caen          | .                            | . | 65,500  |
| Rennes        | .                            | . | 60,000  |
| Angers        | .                            | . | 49,649  |
| Orleans       | .                            | . | 112,500 |
| Bourges       | .                            | . | 129,320 |
| Poitiers      | .                            | . | 52,661  |
| Moulins       | .                            | . | 62,920  |
| Bordeaux      | .                            | . | 34,209  |
| Pau           | .                            | . | 60,000  |
| Toulouse      | .                            | . | 86,500  |
| Montpellier   | .                            | . | 28,472  |
| Nîmes and Aix | .                            | . | 25,000  |
| Grenoble      | .                            | . | 49,864  |



|                 | <i>Contents in Hectares.</i> |
|-----------------|------------------------------|
| Dijon . . .     | 357,000                      |
| Besancon . . .  | 199,000                      |
| Colmar . . .    | 221,000                      |
| Nancy . . .     | 464,500                      |
| Metz . . .      | 386,000                      |
| Liege . . .     | 45,000                       |
| Bruxelles . . . | 74,500                       |
| Douay . . .     | 70,000                       |
| Amiens . . .    | 140,000                      |
| Coblentz . . .  | 180,000                      |
| Corsica . . .   | 100,000                      |
| Total           | <u>3,365,280</u>             |

This quantity, according to the sales of the year ten, gives an annual revenue of 40,000,000 francs.

This quantity is almost double that of the national woods of the monarchy, and it may also be observed, that besides the forests and territories annexed by conquest, the finest woods of particulars, belonged to the chief nobility; whose emigration has thrown the most part into the possession of government, from whence it follows that the quantities at present in private hands, is less than the sum alledged; and on the other hand, the national forests had been deteriorated still more, since the national assembly decreed the sale of all woods at and under the extent of three hundred arpents. In fine, a greater extent was cleared in many cases, and the plough and axe was employed to obliterate the extent of the damage.

The national woods have not been less ravaged in their quality than in their extent, and the scarcity of good pieces of ship timber, and for building, is still more felt than that used for fuel. The woods of the communes are supposed to be three millions of hectares, a little more than under the old government, and

the woods of private persons at 1,500,000 hectares. Thus it may be seen, that the last have been the greatest sufferers.

| <i>Total</i>      |                    |
|-------------------|--------------------|
| In national woods | 3,365,280 hectares |
| Communal woods    | 3,000,000          |
| Individuals       | 1,500,000          |
|                   | <hr/>              |
|                   | 7,865,280          |
|                   | <hr/>              |

After having given, according to the best data that could be procured, a general and total estimate of the national forests, we think it essential for completing the statement to give a partial account of those departments from which we have more detailed information: as the nature of the woods, their produce, and actual or possible use; their decay, and the entire or menaced destruction; and a notice of those trees that suit our soil best.

At the north and north-east extremity are the vast provinces of ancient Belgium, and the circles of the Rhine, forming thirteen departments. Along the Rhine are those of the Roer, Rhine and Moselle, Mont Tonnerre, and La Sarre. That of the Roer affords an annual commerce of 700,000 francs in wood for building, and is embarked at Colmar for Holland. This flotilla of rafts offers a curious spectacle, it is a sort of isle, carrying six hundred workmen. The wood is of oak, beech, poplar, pine and alder. The acacia, maple, sycamore and Lombardy willow, succeed in many places. The forests which cover, in a great degree, the summits and sides of mountains, are rich in builder's wood. The heights of Mont Tonnerre are also well wooded; the chesnut tree is multiplied near Worms and Oppenheim. The trade of La Sarre in wood is by way of that river and the Moselle. The extent of the clearing is complained of. To the west of the departments, at the northern extremity, are those of Des Forets, Sambre and Meuse,

L'Ourthe, Meuse-Inferior, Deux Nethes, Dyle, l'Escaut, la Lys and Jemappes. The departments des Forets, beset with closely wooded hills, particularly near Luxemburg, produce chiefly the oak and beech, mingled with many wild cherries. The commerce of wood has declined.

The national forests of Sambre and Meuse are of 10,865 hectares; the communals of 8,656: total 19,521 hectares, without fractions. Uniting all the private properties, it is supposed that the six twentieths of the department (one thousand two hundred and forty leagues square) are covered with wood, which gives seventy-two square leagues; in all about 168,798 hectares. These woods supply the trade in coals: 324,720 double *steres* of combustibles are in employ: the tanneries consume 225,000 myriagrammes of tan. There is a good deal of oak plank and household stuff made. The India chesnut succeeds well:

The woods of L'Ourthe are unequally dispersed over the department. The banks of the Meuse, and the frontier of La Roer, are the best wooded parts. The walnut thrives about Liege; the annual product of the cuttings is 130,000 francs. The produce is much less in the Meuse-inferior, where they do not amount to more than 18 or 21,000 francs. There is reckoned there 5,400 hectares of forest, of which 3,000 is national. The prevailing trees are oak, ash, beech, yoke-elm, lime, birch, pines, and willows and some wild fruit-trees. In the Dyle is the fine forest of Scignes, but it begins to diminish by clearing; it is 7,296 hectares in extent. The forest trees in general are fine in this fertile country. The roads are planted with two rows of elms, limes, or poplars, the acacia, sycamore, larch and Virginia poplar, succeed well. The tulip tree also grows well and promises a fine yellow dye. The Escaut and Lys present the same appearance of careful culture, by the planting of roads, ditches and banks of rivers. The department of Jemappes is well wooded; there is reckoned 48,000 hectares of national forests—the oak and ash pre-

vail; they have produced in the years VIII and IX together 550,122 francs; the country has also fifteen nurseries, containing 101,450 trees fit for use.

The ancient frontier, in following it from north-east to north-west, embraces the departments forming Alsace, Lorraine, Champagne, Flanders, Artois, Picardy, Normandy and Bretagne. At the north east point is the High and Low Rhine: these departments furnish the most precious woods for ships and houses. The pines are large, but are too rich in resin. The beeches and oaks are perfect. The extent of forests in the lower Rhine is 197,000 hectares, a great part of which is on the hills. Besides the three already mentioned there are many other sorts.

The mountainous parts of Vosges is covered with immense forests of pines and firs, and a vast number of cherry trees (merisiers). To the west of the hills is the fine forest of Darney, which supplies many iron works. The saw mills furnish abundance of plank and boards.

La Meurthe, has been much despoiled of its wood. The Moselle supplies Holland with wood for building. In the Meuse, the country de Ligny-a-Void is well wooded, the oak, beech, birch and elm prevail; though there is no remarkable forest, the annual produce of the woods is 677,211 francs. To the west of those departments, are those of the Ardennes and l'Aine, formed, the first by the northern extremity of ancient Champagne, and the second, by the confines of Picardy and the isle of France. In the first is that famous forest of which it bears the name, the frontier of which is formed in that of the Sambre and Meuse. Complaints are made of its spoliation; it furnishes wood for firing and construction. L'Aisne possesses many fine forests, and supplies considerable quantities of wood for Paris.

The part, the most northerly of the ancient frontier, is termed the department of the *North*, by its position only, and by those of the Pas-de Calais, De la Somme, and L'Oise. In the

first, the wood is disproportionate to its wants. The forests are 34,610 hectares in extent, in large masses, besides some plats of communes and individuals of little importance. The revenue in the year nine has been 1,081,554 francs. The department contains at least 370 hectares of wood. In the Pas-de-Calais, the clearings being done in an inconsiderate way, has opened the grounds to the encroachment of the sands, which have extended over the arable lands a league or more. To such encroachments should be presented a barrier of trees, forming a selva of two hundred and fifty or sixty hectares. The three principal forests are those of Boulogne, Desvres, and Hardehot. The clearing of the lands on the declivity of La Somme has been injurious to agriculture. L'Oise contains the forests of Compeigne and Senlis.

In Normandy and Bretagne, the only domains in the former was estimated, in the year 1789, at 1,219,195 arpents. These forests have suffered during the revolution, but they still afford valuable clumps of wood; principally oaks, beeches and elms. The country has the aspect of a continued forest, from their mode of surrounding their dwellings with a ditch planted with trees, and with their apple orchards.

In L'Eure are forests to the extent of 130,000 hectares of superficies, of which 40,000 are national. L'Orne is thickly set with well wooded knolls, contains, in all, 84,000 hectares, of forests, national and private. In the department of L'Orne is the forest of Alencon; La Manche, has those of Coutance and Avranches. The quality of wood is very various in those three departments; industry has made to it, in many parts, a valuable addition, the marine jonc, or bulrush: it is particularly between Dieppe and Havre, that the plant is an object of culture, there are entire fields, declivities and hills covered with it; it is formed into faggots and sold at one hundred francs a thousand, for fuel, and even for burning brick, and economy of wood in the kitchen.

The prevailing woods in L'Ille and Vilaine are oak and beech, and next chesnut, aspen and birch. There is 30,000 hectares of national forests, planted with trees fit for the marine. The chesnut has succeeded well here, by grafting *en flute*. There are many barrens covered with heath and rushes, which now afford bad pasturage, and were formerly superb forests. In the Cotes-du-Nord also, is found immense barrens, with remains of fallen timber. Such is the situation of le Finisterre, except in the culture of furze, the hectare of which is worth 800 francs. Le Morbihan has some well wooded hills; the Loire-inferior has still more. In all Bretagne, at the epoch of the revolution, there was counted 150,042 hectares of domains in wood.

La Mayenne furnished formerly wood for building—now destroyed by the rapacity of speculators in domains, and by furnaces. The devastations are frightful in La Sarthe; the national forests are those of Bersay and Persaigne; the prevailing species are oak, beech, ash, chesnut, marine pine, maple, aspen, &c. The territory of Orleans has the forests of Orleans, de Blois, de Ruffi, de Freteval, and de Vendome, as well as many other portions. The quantity of domains is reckoned at 84,398 hectares, in 1789.

The Eure and Loire has but little wood, but affords about 20,000 hectares, which ought to be planted. The Isle-de-rance, embraces nearly the departments of Seine and Oise, Seine, and Seine and Marne: in these three departments are the woods of Versailles, de Bondy, de Brivot, de Rosny, Rambouillet, St. Germain, Marly, Lille Adam, Montmorency, Senars, Fontainebleau, Melun, and all the other woods immediately surrounding Paris. These woods furnish firing and waggon timber. In l'Yonne, la Marne, l'Aube, and Haute Marne, part of Champagne, are noble trees, of the best qualities. In the space between the Yonne and the Marne are 2,000,000 of hectares covered with forests: the department of

L' Aube, enclosed between those two basons, is in possession of 75,000 hectares, which aids in the supply of Paris, and for merchant vessels: the common product is 849,972 francs. Here is the fine wood of Clairvaux. In Lamarne are the forests of Tracore, de Gaul, Vassy, Enghein, Boussant, Louvais. In the east of the department is the prolongation of the forest of Argonne and the woods of Clermontois, altogether forming 40,200 hectares of extent. The qualities are various. The forest of Louvais, and the mountain of Rheims, affords near to Saint Bâle, a kind of beech, of which the growth and form is a sort of phenomenon in natural history: their branches curve and interlace, in so close a manner, that they form a thick spherical body. This phenomenon is so peculiar to this canton, that the same kinds transplanted into other places resume their usual vertical position. In the Haute-Marne, the fine forest of Der expedites a good deal of boards and scantling for Paris and Havre.

In the departments comprehending Haute Saone, Doubs, Jura, Ain, Lemane, Mont Blanc, High Alps, Drome and Isere: La Haute-Saone contains 153,00½ hectares of forest, which is more than a quarter of the surface of the department. The clearing and the furnaces in the Doubs, notwithstanding the vast extent of its forests, renders the loss sensible. The Jura possesses the fine forest of de Chaux, where are found oaks, pines, firs, beeches, ashes, yews, elms, and other sorts. In L'Ain two-thirds the surface is uncultivated, despoiled, or partially covered with bad wood. The forest pine, formerly so common, is found only to the west; its vegetation accommodated to all kinds of soils, and its usefulness ought to encourage the reproduction. The walnut trees also have disappeared, as well as the wild cherry, apple and pear.

The Lemane contains 131,156 hectares of wood, firs, and larches; but the bed of the Rhone which is not navigable in this department, precludes the advantages that might be had from them. Incendiaries have devastated the fine forests which covered Mont Blanc. In the high Alps the denuding of the moun-

tains has been followed by the effect of the grounds being ravaged by torrents. The forest of Durbon appertaining to the ancient Chartreuse has escaped by its inaccessible scite; it is composed of ancient pines of great dimensions. Indeed, the devastation generally is so great, that in the canton of Graves the dung of animals dried is the only fuel. In the Drome is the same destruction: the forest of Marsanne, of ten thousand hectares, has experienced the same fate. The soil affords the best beech and oak, and the pines and firs thrive on the mountains: the mulberry thrives in the plain; and exclusive of its usefulness in rearing silkworms, serves for fuel and building. It is supposed that this department affords 200,000 hectares fit for planting with wood, and the advantage appears the more certain from the nature of the soil, and facility of transport. The walnut tree is cultivated successfully in this department, as in the Isere, the mountains of which are well wooded, but of difficult access.

After these frontier departments, we notice, towards the centre, those of Bourgogne, Nivernais, Lyonnais, Auvergne, Bourbonnais, Berri, Touraine, and Limosin. Those of Bourgogne, present a horrible picture of devastation. The extent of national forests in domain, amounted in 1789 to 225,064 arpents; they furnish wood for the marine. In La Nievre there is some fine forests, tolerably preserved, as those of Douzoy and Decize; they furnish the furnaces of the department, the supply of Paris, building, coals, vine props, hoops, &c. the extent of wood land is about 32,000 hectares. The Allier has been richer formerly, the national woods there amounting to 32,100 hectares; those of individuals being 90,000: the oak, beech, elm, and white wood, (bois blanc) are the prevailing qualities. The marine draws from hence 25,000 cubic feet of timber.

In the department of the Rhone we find some well wooded parts, but far from enough to suffice the consumption of Lyons where wood is as dear as at Paris. This country was



lately covered with forests; the most considerable remains are those of Alix and Chamay: the pines and trees of cold countries are common on the northern exposure. In general the quality of the wood is green oak, pines and firs, the maple of Montpellier, poplars, aspens, willows and cypress. Lyons, the chesnuts of which are famous, has no chesnut trees!—the fruit is transported from L'Ardeche and its environs. The mulberry is said to be unable to stand the cold; but that is an error proceeding from ill made trials. In la Loire the forests are devastated by clearing, as they yield good timber for building. The mountains are covered with pines, firs and beeches, of large growth; Mont-Pila particularly is crowned with a forest of great extent. This department has but few oaks.

The mulberries succeed well in the plains of Forez. The borders of the roads are in some places, planted with walnut trees, the fruit of which serves to make oil. The chesnuts are common in the lower mountains: but in the cantal this tree is multiplied to the extent of ten leagues, and nourishes its inhabitants almost entirely, and which in other respects presents an appearance of the extremest misery.

In the Correze is an elevated flat, called *Mille-Vaches* (thousand cows): this extensive pasture ground was formerly a forest, the destruction of which has changed the fertility of the lower countries. This department possesses the woods of Vantadour and Bonnaigues, the forests of Montard and Meillard, each of a thousand hectares; and besides, 18,000 hectares of individuals; the quality is oak, beech and chesnut; and there are many walnuts which serve for the manufacture of gun stocks.

Le Cher contains 31,500 hectares of national woods, and nearly as much belonging to individuals: elm and chesnut predominate, the acacias and Italian poplars succeed very well.

The department of Indre, formerly of the lower part of Berri, may have 30,000 hectares of national woods, which is

much abused by cattle, and goats particularly. The mulberry has disappeared.

The departments of the west, of the central zone, are those of Mayenne and Loire, Deux Sevres, Vendee, Charente-inferior, Charente and Vienne. The national woods of Mayenne and Loire, ancient Anjou, may be reckoned at 75,000 hectares. La Vendee is divided into marsh, thicket and plain. There is no heavy woods in the latter, but the forest of Saint Gemme, of 151 hectares, and some clumps of full grown trees, affording some beautiful oaks. The marsh is covered with such trees as are peculiar to a humid soil, and a species of tall shrub which serves to cover the cottages. Though the country is in general woody, it is very scarce in some parts. The *Bocage* is the part richest in wood; it has 6,911 hectares of forest, and national woods, besides that of private persons. Oak predominates. The difficulty of transport renders this valuable vegetation of little value.

In the Deux Sevres, the canton of Parthenay possesses many full grown trees and much coppice; there are some very old oaks, chesnuts, elms, maple, oak-vert, ashes, willows, birch and walnut

The district of Melle cultivates furze, the faggots of which are an object of commerce. The culture of the walnut between Niort and Saint Maxent, is also of much account; it is estimated that each tree yields three francs rent. La Vienne has much national woods: the oak pushes vigorously among the barrens; there is besides many chesnuts, ashes, firs, wood-pine, willows, aspens and beeches, and some cantons abound in walnuts. The extent of national woods is 23,018 hectares: of these are the forests of Chatellerault and La Guerche. La Charente-inferior has six national forests, but little damaged, yielding annually 18,000 francs. The full growths of Saintonge were celebrated for the naval timber they afforded. La Charente has fourteen forests containing black and white oaks,

and six woods, which supply a large commerce. The national woods occupy 25,588 hectares.

The ancient province of Guienne, and its divisions, the Pyrenees, Languedoc, Provence, and Piedmont, offer the frontier of the south. La Dordogne is well wooded, and nourishes a great quantity of chesnut and walnut. Le Lot, the plains of which are very fertile, is dotted with hillocks covered with wood. La Gironde cultivates pines for the wants of commerce. The canton of Medoc is covered with *Pignadas*. The waste land produce the same sort, and much green oak. In Le Gers is the forest of Gresigne, containing 4,500 hectares, which furnishes coal for the manufacture of gun powder at Toulouse; in general the country is well supplied with large and underwood. The High Garonne has some underwoods: and a good many mulberries and fruit-trees. The inconsiderate clearings in the mountains in L'Arriege produces considerable damage to the grounds below, and continue with frightful activity. The high and low Pyrenees are covered with pines, firs and oaks. Complaints are made of the dilapidations.

In the eastern Pyrenees is the national forest of Lamotte, which requires replanting. The plain of Perpignan has many groupes of trees. The national woods occupy about 37,500 hectares. The forest of L'Aude is much spoiled, and that of Ramodeins deserves more attention.

The Tarn is dotted with hills covered with woods of oak, pine and beech. L'Aveyron possesses 98,667 hectares of forest, and 52,724 of chesnuts. The manufacture of wooden shoes is in great activity here, and employs 200,000 persons. In Herault oaks are common on the hills, and olives and mulberries in the plain. In La Gard are the same kinds. The mountain near Cabrillac affords noble pines and firs, but for which there is no means of transport.

In La Lozere, the part called Cevonnes is fertile in chesnuts. The stripping of the hills has proved very injurious in effect.

It is in the valley of Vaisseaux, that the chesnuts are found which supply Lyons.

Vauchuse possesses but little wood. In the north of the lower Alps are found a good many beeches, pines and larches. The southern cantons have not even fuel, but they have plenty of fruit-trees. The mountains of the Bouches-du-Rhone present a long bed of schist, sandy and granitous. This schistous stratum nourishes plants enough to arrest the soil from washing with torrents. The Alpine mountains of Du Var are crowned with oaks, pines and firs. The mountains of Brouis has a forest of firs of two square leagues, equal to those of the north for the marine service. The maritime Alps has also very fine woods for the marine service.

Of the six departments formed of Piedmont, those of La Doire and Po, appear to be the richest in wood. Besides the spontaneous growth on the mountains of the south, there is found many chesnuts. The walnut succeeds well.

Corsica is divided into the two departments: Golo and Liamone, is covered with forests, where are oaks, pines, and firs, superior to those of the north, cedars, larches and chesnuts; there are no means of transport for this timber, which is therefore abandoned to rapine: the whole of these woods may amount to 225,000 hectares, yet they hardly bring 100,000 francs. Economists are of opinion that this product would arise to 8 or 10,000,000 if the transport to sea was practicable.

## APPENDIX.

## COMPARATIVE TABLE OF MEASURES.

|                                  | <i>Lineal.</i> | <i>Millimetres.</i> |
|----------------------------------|----------------|---------------------|
| The old foot of France, equal to | .              | 324 7               |
| English foot                     | .              | 304 7               |
| Varre of Castile                 | .              | 336 6               |
| Rhenish foot                     | .              | 313 9               |
| Foot of Vienna                   | .              | 316 0               |
| Do. of Amsterdam                 | .              | 288 0               |
| Do. of Sweden                    | .              | 297 1               |
| Do. of Russia                    | .              | 354 1               |
| Do. of China                     | .              | 320 0               |

|                                  | <i>Weights.</i> | <i>Grammes.</i> |
|----------------------------------|-----------------|-----------------|
| The livre, or pound, mark weight | .               | 489 2           |
| English pound troy               | .               | 372 6           |
| Do. avoirdupois                  | .               | 453 1           |
| Pound of Castille                | .               | 452 4           |
| Do. of Cologne                   | .               | 467 4           |
| Do. of Vienna                    | .               | 558 6           |
| Do. of Amsterdam                 | .               | 491 4           |
| Do. of Sweden                    | .               | 424 0           |
| Do. of Russia                    | .               | 409 5           |

|                                    | <i>Monies.</i> | <i>Fr. Centimes.</i> |
|------------------------------------|----------------|----------------------|
| Holland florin                     | .              | 2 09                 |
| Schelling (stivers) at 16 pennings | .              | 65                   |
| Ducaton                            | .              | 6 88                 |
| Daler                              | .              | 5 48                 |
| Loewendaler                        | .              | 4 59                 |

|  | Fr. Centm. |
|--|------------|
| <i>Roman States</i> , scudo . . .                        | 5 42       |
| Testono . . .  | 1 69       |
| Papeto . . .   | 1 11       |
| Paolo . . .  | 55         |
| <i>Hamburg</i> , marchbanco . . .                        | 1 53       |
| Marc courant . . .                                       | 1 24       |
| Crown, worth 3 marcs                                     |            |
| <i>Tuscany</i> , Francesconi, or leopoldini, at 10 paoli | 5 53       |
| Testono, at 3 paoli . . .                                | 1 66       |
| Paoli . . .  | 55         |
| Lira . . .   | 83         |
| Tallari, at 9 paoli . . .                                | 5 08       |
| <i>England</i> , Shilling . . .                          | 1 23       |
| Grown (5 shillings) . . .                                | 6 16       |
| <i>Austria and Bohemia</i> , Specie reichsthaler         | 5 27       |
| Florin, (gulden) at 60 kreutzers                         | 2 03       |
| 10 kreutzers . . .                                       | 44         |
| <i>Denmark and Holstein</i> , Specie reichsthaler        | 5 69       |
| Marc of Lubeck, or marc-lub . . .                        | 1 51       |
| Marc Danish . . .  | 95         |
| <i>Spain</i> , Piastre, since 1772 . . .                 | 5 44       |
| Pesetas (4 reals) . . .                                  | 1 15       |
| New real (2 reals) . . .                                 | 58         |
| Real de Veillon . . .                                    | 29         |
| <i>Switzerland</i> , Ecu de Bale (30 batzen) . . .       | 4 44       |
| Florin of Bale (15 batzen) . . .                         | 2 22       |
| Franc of Berne (10 batzen) . . .                         | 1 52       |
| Ecu of Zurich (2 florins) . . .                          | 5 05       |
| Florin of Zurich (40 shillings) . . .                    | 2 53       |
| <i>Naples</i> , scudo (120 grani since 1784) . . .       | 5 13       |
| Ducat (100 grani since 1784) . . .                       | 1 27       |
| Taro . . .   | 85         |
| Carlino . . .  | 48         |
| <i>Parma</i> , Ducat, since 1784 . . .                   | 5 35       |

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|  | Fr. | Cent'm. |
|--|-----|---------|
| <i>Portugal</i> , Crusado (480 rees)                     | 3   | 65      |
| Milree   | 6   | 09      |
| <i>Prussia</i> , Reichsthaler (24 groschens)             | 3   | 76      |
| Groschen   |     | 15      |
| <i>Bagusa</i> , Visline or Ragusine                      | 3   | 5       |
| <i>Russia</i> , Roubles (100 kopecks) since 1762         | 5   | 05      |
| <i>Sardinia</i> , Scudo (2½ liras)                       | 4   | 76      |
| Lird   | 1   | 90      |
| <i>Savoy and Piedmont</i> , Scudo (6 liras, since 1755)  | 7   | 17      |
| Lird   | 1   | 12      |
| <i>Saxony</i> , Specie rix dollar                        | 5   | 81      |
| Rix dollar (24 groschen)                                 | 4   | 36      |
| Gulden (florin)  | 2   | 90      |
| Groschen   |     | 18      |
| <i>Sicily</i> , Onzia (80 tari since 1785)               | 13  | 80      |
| Scudo (12 tari)  | 5   | 12      |
| <i>Sweden</i> , Specie dollar (48 schellings since 1777) | 5   | 79      |
| Piece of 10 oers   |     | 70      |
| <i>Turkey</i> , Yaz-para (2½ piastres)                   | 5   | 02      |
| Piastre (40 paras)                                       | 3   | 09      |
| Para   |     | 08      |
| <i>Venice</i> , Ducat (8 liras)                          | 4   | 16      |
| Scudo della croze (12.4 liras)                           | 6   | 56      |
| Giustina or ducaton (11 liras)                           | 5   | 82      |
| Talero (10 liras)  | 5   | 29      |
| Osella (5.9 livres)                                      | 2   | 05      |
| Lira   |     | 53      |

## Gold.

*India*, Mohr, 15 & 16 rupees.

## Silver.

Rupce . . . . . 1 50  
Anna, 16 hundredths of a rupce.

*Gold.*

|                                       | <i>Fr. Cent'm.</i> |
|---------------------------------------|--------------------|
| <i>Japan,</i> Obang (10 kobang) . . . | 500                |
| Old kobang . . .                      | 50                 |
| New kobang . . .                      | 80                 |
| Itchip, or old itchibou . . .         | 10                 |
| Itchibou current (15 mas) . . .       | 6                  |

*Silver.*

|                                   |    |
|-----------------------------------|----|
| Gonome guin . . .                 | 4  |
| Nandio guin . . .                 | 3  |
| Tcho-guin or itaganne grand . . . | 24 |
| Itaganne, small . . .             | 12 |
| Kodama, from 50 to 150 centimes.  |    |

*Copper.*

|  |       |
|--|-------|
| <i>Japan,</i> Chouman seni . . .                                       | 75    |
| Simoni seni . . .  | 25    |
| Seni . . .   | 6     |
| <i>Asia,</i> Rupee of Arcot . . .                                      | 2 44  |
| Bombay, Madras, Persia . . .   | 1 47  |
| Pondicherry . . .  | 2 49  |
| Haidernac (minimum) . . .  | 2 37  |
| Bengal (maximum) . . .   | 2 57  |
| <i>Persia,</i> Syah poul or qurahpoul (copper) 5 centimes 7 milliemes. |       |
| The piece of .5 chahy or an abacy and a fourth, 56 milliemes.          |       |
| The silver piece of 3 abacy . . .                                      | 1 35  |
| The reyal or piece of 6 abacy and a fourth (silver) . . .              | 2 85  |
| The gold piece of 25 abacy . . .                                       | 11 40 |
| The touman . . .   | 22 85 |
| <i>The United States of America,</i> Dollar . . .                      | 5 57  |



*Names of the principal places in France, with their respective Departments, and Number of Inhabitants.*

| A                         |            |                             |            |
|---------------------------|------------|-----------------------------|------------|
| Town and Department       | Population | Town and Department         | Population |
| Abbeville, La Somme       | 18,052     | Arcis-sur-Aube, L'Aube      | 2,500      |
| Acqui, Montenotte         | 6,609      | Ardes, Puy-de-Dome          | 1,636      |
| Agde, L'Herault           | 6,744      | Ardoye, Lys.                | 5,875      |
| Agen, Lot & Garonne       | 10,569     | Argelles, Hautes-Pyrenees   | 810        |
| Ahun, Creuse              | 1,564      | Argentan, L'Orne            | 5,618      |
| Aigle, L'Orne             | 5,947      | Argentat, La Correze        | 2,574      |
| Aignay-Cote-d'Or, C. d'Or | 831        | Argenteuil, Seine & Oise    | 4,762      |
| Aigre, La Charente        | 1,428      | Argentiere, Ardeche         | 1,706      |
| Aiguebelle, Mont-Blanc    | 687        | Argenton, L'Indre           | 3,395      |
| Aigueperse, Puy-deDome    | 2,536      | Argenton-le-Chat. deux-Sev. | 270        |
| Aigues-Mortes, Le Gard    | 5,045      | Arles, Bouches du Rhone     | 18,470     |
| Aire, Le Pas-de-Calais    | 8,627      | Arles, Pyrenees Orientales  | 1,226      |
| Aire, Les Landes          | 2,999      | Arlon, Les Forests          | 3,128      |
| Airvault, Les Deux-Sevres | 2,068      | Armentieres, Le Nord        | 7,598      |
| Aix, Bouches-du-Rhone     | 21,009     | Arnay-fur-aroux, laCo. d'Or | 2,543      |
| Aix, Mont-Blanc           | 1,596      | Arpajon, Seine & Oise       | 2,093      |
| Aix-la-Chapelle, Roer     | 24,419     | Arras, Pas-de-Calais        | 19,958     |
| Ajaccio, Liamone          | 6,570      | Arreau, Hautes-Pyrenees     | 980        |
| Alais, Le Gard            | 8,944      | Astafort, Lot-&Garonne      | 4,139      |
| Alba, Stura               | 6,950      | Asti, Marengo               | 21,225     |
| Albert, La Somme          | 1,936      | Ath, Jemmapes               | 7,634      |
| Alby, Le Tarn             | 9,649      | Attigny, Les Ardennes       | 950        |
| Alencon, L'Orne           | 12,407     | Aubagne, Bouches-du rhone   | 5,610      |
| Alexandrie, Marengo       | 30,000     | Aubenas, L'Ardeche          | 3,315      |
| Alost, L'Escaut           | 10,927     | Aubenton, L'Aisne           | 1,103      |
| Altkirck, Le Haut-Rhin    | 1,720      | Aubigna, Le Cher            | 2,530      |
| Alzonne, L'Aude           | 1,510      | Aubusson, La Creuse         | 3,460      |
| Amberieux, L'Ain          | 2,850      | Auch, Le Gers               | 7,696      |
| Ambert, Le Puy-de-Dome    | 5,926      | Audenaarde, L'Escaut        | 4,000      |
| Ambois, L'Indre & Loire   | 5,113      | Aulnay, La Charente         | 1,250      |
| Amiens, La Somme          | 41,279     | Aumale Seine Inferieure     | 1,715      |
| Ancenis, La Loire Inf.    | 2,923      | Aunay, Le Calvados          | 1,820      |
| Andelys, L'Eure           | 2,022      | Aups, Le Var                | 2,949      |
| Andernach, Rhin-et-Mosel. | 5,160      | Auray, Le Morbihan          | 3,210      |
| Anduse, Le Gard           | 5,019      | Aurillac, Le Cantal         | 10,357     |
| Angers, Maine & Loire     | 33,000     | Auterive, Haute-Garonne     | 4,000      |
| Angouleme, La Charente    | 13,000     | Autun, Saone & Loire        | 9,176      |
| Annecy, Mont-Blanc        | 5,130      | Auxerre, L'Yonne            | 12,047     |
| Annonay, L'Ardeche        | 5,550      | Auxi-la-Reunion, Pas d Cal. | 2,496      |
| Anse, Le Rhone            | 1,639      | Auxonne, La Cote-d'Or       | 5,282      |
| Antibes, Le Var           | 5,270      | Auzances, La Creuze         | 1,230      |
| Antrain, Ille & Vilaine   | 1,375      | Avallon, L'Yonne            | 5,038      |
| Anvers, Les Deux-Nethes   | 56,318     | Avesnes, Le Nord            | 2,935      |
| Aoste, Doire              | 5,553      | Avignon, Vaucluse           | 21,412     |
| Apt, Vaucluse             | 4,689      | Avranches, La Manche        | 5,413      |
| Arbois, Le Jura           | 6,414      | Azay-le-Rideau, Ind. & Loir | 1,708      |

| Town and Department           | Population | Town and Department          | Population |
|-------------------------------|------------|------------------------------|------------|
| B                             |            |                              |            |
| Becarat, La Meurthe           | 1,351      | Bene, Stura                  | 5,020      |
| Bagneres, Hautes-pyrenees     | 5,656      | Bergerac, La Dordogne        | 8,544      |
| Bagneres d Luch. Hau. gar.    | 1,256      | Bergues- Le Nord             | 5,085      |
| Bagnols, Le Gard              | 4,800      | Bernay, L'Eure               | 6,271      |
| Baillien, Le Nord             | 8,944      | Besancon, Le Doubs           | 28,436     |
| Bain, L'Ille & Vilaine        | 3,447      | Besse, Le Puy-de-Dome        | 1,913      |
| Bains, Les Vosges             | 1,790      | Bethune, Pas-de-Calais       | 6,046      |
| Balleroy, Le Calvados         | 1,176      | Beziers, L'Herault           | 14,535     |
| Bapaume, Pas-de-Calais        | 3,145      | Bielle, Sezia                | 7,762      |
| Baraque-s.-Gev. Cote-d'Or     | 1,128      | Bienne, Haut-Rhin            | 2,621      |
| Barbezieux, La Charente       | 1,984      | Billom, Le Puy-de-Dome       | 5,110      |
| Barcelonette. les Bas. Alp.   | 2,182      | Binch, Jemmapes              | 3,798      |
| Barge, Stura                  | 6,905      | Bingen, Mont-Tonnerre        | 2,663      |
| Barjac, Le Gard               | 1,383      | Birkenfeld, Sarre            | 1,254      |
| Barjols, Le Var               | 3,025      | Blamont, Da Meurthe          | 1,863      |
| Barr, Bas-Rhin                | 3,996      | Blanc, L'Indre               | 3,850      |
| Bar-sur-Aube, L'Aube          | 4,000      | Blanzac, La Charente         | 546        |
| Bar-sur-Ornain, La Meuse      | 8,961      | Blave, Gironde               | 3,580      |
| Bar-sur-Seine, L'Aube         | 2,299      | Blois, Le Loir & Cher        | 14,900     |
| Bassee, Le Nord               | 2,171      | Bolbec, Seine-Inferieure     | 4,921      |
| Bas, Haute-Loire              | 5,335      | Bonn, Rhin & Moselle         | 8,833      |
| Bastia, Golo Corse            | 11,336     | Bonnestable, La Sarthe       | 4,587      |
| Bastogne, Forests             | 2,354      | Bonneval, L'Eure & Loir      | 1,551      |
| Bauge, Maine & Loire          | 3,003      | Bonneville, Lemane           | 990        |
| Baume Sur Doubs, le Doubs     | 2,309      | Bonniere, Seine & Oise       | 769        |
| Bavay, Le Nord                | 1,455      | Bordeaux, Gironde            | 90,992     |
| Bayeux. Le Cavaldos           | 9,600      | Bort, La Correze             | 1,792      |
| Bayonne, Basses-Pyrenees      | 13,190     | Rouchain, Le Nord            | 1,128      |
| Bazas, La Gironde             | 4,215      | Bouillon, Ardennes           | 1,973      |
| Beaucaire, Le Gard            | 7,943      | Boulay, La Moselle           | 2,309      |
| Beaufort, Maine & Loire       | 5,990      | Boulogne-sur-Mer, P. de C.   | 13,228     |
| Beaugency, Le Loiret          | 4,842      | Boulogne, Haute-Garonne      | 1,476      |
| Beaujeu, Le Rhone             | 1,600      | Bourbon-Lancy, Bel. Bains    | 2,800      |
| Beaumont, Jemmapes            | 1,376      | Bourbon-L'Archamb. L'A.      | 2,542      |
| Beaumont de Loumag. H. G.     | 3,700      | Bourbonne-les-Bains, Ha. M.  | 3,913      |
| Beaumont le Reger, L'Eure     | 1,046      | Bourboug, Le Nord            | 1,966      |
| Beaumont sur Sar. Sarthe      | 2,402      | Bourg, L'Ain                 | 6,984      |
| Braune, La Cote-d'Or          | 8,344      | Bourg, Gironde               | 2,704      |
| Beaupreau, Maine & Loire      | 1,640      | Bourganeuf, La Creuse        | 1,988      |
| Beaurepaire, L'Isere          | 1,800      | Bourg-d'Oisans, Isere        | 2,079      |
| Beaussee, Le Var              | 2,980      | Bourges, Le Cher             | 16,330     |
| Beauvais, L'Oise              | 12,392     | Bourg-neuf, La Loire Infer.  | 2,033      |
| Beauvior sur Mer, la Vaud     | 1,893      | Bourgoin, L'Isere            | 3,595      |
| Becherel, l'Ille & Valaine    | 493        | Bourg S. Andeol, L'Ardeche   | 3,964      |
| Bedarieux, L'Herault          | 3,338      | Bourgteroude, L'Eure         | 860        |
| Belesme, L'Orne               | 2,708      | Bourgueil, L'Indre & Loire   | 2,810      |
| Belfort, le Haut Rhin         | 4,400      | Bourmont, La Haute-Marne     | 1,071      |
| Bellac, Haute-Vienne          | 3,901      | Boussac, La Creuse           | 586        |
| Belle isle en Mer le Morbi.   | 2,496      | Bouzonville, La Moselle      | 1,378      |
| Belle-isle en terre, C. du N. | 812        | Boves, Stura                 | 6,702      |
| Belleville-sur-saone, Le R.   | 2,039      | Bra. Stura                   | 10,327     |
| Belley, L'Ain                 | 3,729      | Braisne, L'Aisne             | 1,291      |
| Belves, La Dordogne           | 2,099      | Bray-sur-Seine, Seine & M.   | 2,030      |
| Benfeld, Le Bas-Rhin          | 1,220      | Bresle ou Arbreale, Le Rhone | 81         |
|                               |            | Bressuire, Les Deux-Sevres   | 630        |

# APPENDIX.

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| Town and Department          | Population | Town and Department           | Population |
|------------------------------|------------|-------------------------------|------------|
| Brest, Le Finistere          | 25,865     | Castelnau de Magnoac, H.P.    | 1,200      |
| Breteuil, L'Oise             | 2,160      | Castelnau de Medoc, la G.     | 1,008      |
| Brezolles, Eure & Loir       | 810        | Castelnau de Montratier le L. | 4,279      |
| Briancon, Les Hautes-Alpes   | 2,976      | Castelnovo de Scrivio, Mar.   | 5,414      |
| Briarre, Le Loiret           | 1,655      | Castel-Sarrazin, Tarn & G.    | 5,104      |
| Brie-sur-Hieres, Seine & M.  | 2,571      | Castillon la Gironde          | 2,580      |
| Brienne-le-Chateau, L'Aube   | 3,191      | Castres, le Tarn              | 15,171     |
| Brienon-sur-Amancon, L'Y.    | 2,372      | Cateau-Cambresis le, Le N.    | 4,000      |
| Briey, La Moselle            | 1,620      | Catelet, L'Aisne              | 411        |
| Brignolles, Le Var           | 5,460      | Caudebec, Seine Inferieure    | 2,800      |
| Brionne, L'Eure              | 1,720      | Caune, le Tarn                | 2,488      |
| Brioude, La Haute-Loire      | 5,486      | Caussade, Tarn & Garonne      | 4,142      |
| Brives, La Correze           | 5,762      | Cavaillon, Vaucluse           | 5,192      |
| Broons, Corres-du-Nord       | 2,001      | Cavour, Po                    | 5,673      |
| Brou, Eure & Loir            | 1,918      | Caylux, Tarn & Garonne        | 5,131      |
| Bruges, La Lys               | 33,632     | Ceret, Pyrenees Orientales    | 2,382      |
| Brumpt ou Brumath            | 2,671      | Cerilly, L'Allier             | 2,400      |
| Bruxelles, La Dyle           | 66,297     | Cernay, Le Haut-Rhin          | 1,088      |
| Bruyeres, Les Vosger         | 1,911      | Cette, L'Herault              | 6,984      |
| Buchy, Seine-Inferieure      | 673        | Ceva, Montenotte              | 5,473      |
| Bugue, La Dordogne,          | 2475       | Chalons, sur-Marne Marne      | 11,120     |
| Buis, La Drome               | 2,215      | Chabanois, La Charente        | 1,444      |
| Busca, Stura                 | 7,900      | Chablis, L'Yonne              | 2,323      |
| Buxi, Saone & Loire          | 1,602      | Chagny, Saone & Loire         | 2,214      |
| Buzancois, L'Indre           | 3,199      | Chailard, La L'Ardeche        | 1,722      |
| Buzancy, Les Ardennes        | 774        | Challans, La Vendee           | 3,000      |
| C.                           |            | Chalonne, Maine & Loire       | 4,922      |
| Cadenet, Vaucluse            | 2,051      | Chalons-sur-Saone, S. & L.    | 10,431     |
| Cadillac, La Gironde         | 1,326      | Chalus, La H.-Vienne          | 1,304      |
| Caen, Le Calvados            | 30,923     | Chambery, Mont-Blanc          | 10,800     |
| Cahors, Le Lot               | 11,228     | Chambon, La Creuse            | 1,482      |
| Calais, Le Pas-de-Calais     | 6,996      | Chambrois, L'Eure             | 1,000      |
| Cambry, Le Nord              | 13,799     | Champagnoles, Le Jura         | 1,474      |
| Cande, Main & Loire          | 948        | Champlitte, La Haute-Saone    | 2,654      |
| Cany, Seine-Inferieure       | 1,432      | Chantonay, La Vendee          | 1,421      |
| Capelle, l'Aise              | 1,077      | Chaurce, L'Aube               | 1,630      |
| Caraglio, Stura              | 5,200      | Charite, La Nievre            | 4,011      |
| Caraman, la Haute-Garon.     | 2,292      | Charleroy, Jemmapes           | 3,744      |
| Carcassone l'Aude            | 15,219     | Charleville, Ardennes         | 7,724      |
| Carentan, la Manche          | 2,857      | Charmes, Les Vosges           | 2,686      |
| Carentoire, Morbiham         | 5,681      | Charolles, Saone & Loire      | 2,407      |
| Carhaix, le Finistere        | 1,734      | Chartres, Eure & Loire        | 13,794     |
| Carignano, Po                | 7,229      | Chateaubriant, L. Infer.      | 1,045      |
| Carmagnole, Po               | 12,000     | Chateau-Chinon, La Nievre     | 3,156      |
| Caronges, l'Orne             | 1,950      | Chateau-du-Loir, La Sarthe    | 2,762      |
| Carpentras, Vaucluse         | 8,489      | Chateaudun, Eure & Loir       | 6,046      |
| Carvin-Espinoz, le P. de-C.  | 4,920      | Chateau-Gontier, La May.      | 4,834      |
| Casal, Marengo               | 16,151     | Chateau-Landon, S. & M.       | 1,960      |
| Cassel, le Nord              | 3,601      | Chateaulin, Finistere         | 3,172      |
| Castel-Jaloux, lot & Garon.  | 1,757      | Chateau-Meillant, Le Cher     | 2,238      |
| Castelamonte, Doire          | 5,020      | Chateaufeuf, Eure & Loir      | 1,271      |
| Castellane, les Basses-Alpes | 1,962      | Chateaufeuf, La Charente      | 2,184      |
| Castelnaudary, l'Aude        | 7,610      | Chateaufeuf, Le Cher          | 1,719      |

| Town and Department          | Population |
|------------------------------|------------|
| Chateaufort, L'Ille & Vil.   | 539        |
| Chateaufort, Maine & Loire   | 216        |
| Chateau-Regnaud Ind. & L.    | 2,518      |
| Chateauroux, L'Indre         | 8,049      |
| Chateau-Salins, La Meurthe   | 2,110      |
| Chateau-Thierry, L'Aisne     | 4,160      |
| Chateaudren, Les-C-du-N.     | 869        |
| Chatelet le Seine & Marne    | 1,004      |
| Châtelleraut, La Vienne      | 8,193      |
| Chatillon-de-Michailles l'A. | 1,270      |
| Chatillon-s. Chalaronne l'A. | 3,119      |
| Chatillon-sur-Indre. L'Indre | 2,609      |
| Chatillon-s-Loing, le Loiret | 1,996      |
| Chatillon-sur-S. Cote-d'Or   | 3,700      |
| Chatillon-sur-Sevre, D. Sev. | 512        |
| Chatre l'Indre               | 3,463      |
| Chaumont, la-Haute-Marne     | 6,188      |
| Chaumont, l'Oise             | 1,088      |
| Chauny, l'Aisne              | 3,500      |
| Chauvigny, la Vienne         | 1,608      |
| Chazelles, la Loire          | 2,364      |
| Chef-Boutonne, les D. Sev.   | 1,422      |
| Chemille. Marne & Loire      | 3,112      |
| Chenerrailles, la Creuse     | 709        |
| Cherasco, Stura              | 11,166     |
| Cherbourg, la Manche         | 11,389     |
| Chevreuse, Seine & Oise      | 1,730      |
| Chiusa, Stura                | 4,968      |
| Chieri, Po                   | 10,060     |
| Chinay, Jemmapes             | 1,892      |
| Chinon, Indre et Loire       | 6,110      |
| Chivasso, Doire              | 5,450      |
| Chollet, Maine et Loire      | 4,709      |
| Ciotat la, Bouches-du-R.     | 6,117      |
| Civray, la Vienne            | 1,484      |
| Clamecy, la Nièvre           | 5,034      |
| Claye, Seine & Marne         | 1,007      |
| Clayette la, Saône & Loire   | 1,089      |
| Clermont-de-ladove l'Her.    | 5,224      |
| Clermont, la Meuse           | 1,598      |
| Clermont, l'Oise             | 1,995      |
| Clermont, le-Puy-de-Dome     | 30,000     |
| Cleves, Roer                 | 4,243      |
| Clisson, Loire Inferieure    | 1,178      |
| Cloye, Eure & Loir           | 1,520      |
| Cluny, Saône & Loire         | 3,814      |
| Cluses, Leman                | 2,102      |
| Coblentz, Rhin & Moselle     | 10,691     |
| Cognac, la Charente          | 2,827      |
| Collioure Pyrenees-Orient.   | 1,178      |
| Collonges, Leman             | 2,250      |
| Colmar, le Haut Rhin         | 11,933     |
| Cologne, la Roer             | 42,706     |
| Colombey, la Meurthe         | 850        |

| Town and Department        | Population |
|----------------------------|------------|
| Combourg, L'Ille & Vilaine | 4,170      |
| Commercy, La Meuse         | 3,418      |
| Compiègne, L'Oise          | 7,058      |
| Concarneau, Le Finistere   | 2,200      |
| Conches, L'Eure            | 2,259      |
| Conde, Nord Libre          | 5,978      |
| Conde-sur-Noireau, Calva.  | 3,030      |
| Condom, Le Gers            | 6,650      |
| Condrieux, Le Rhone        | 4,350      |
| Conflans, le Mont-Blanc    | 1,313      |
| Confolens, la Charente     | 2,045      |
| Conil, Stura               | 16,500     |
| Corbeil, Seine & Oise      | 3,200      |
| Corbie, la Somme           | 1,913      |
| Corbigni, La Nièvre        | 2,315      |
| Cordes, Le Tarn            | 2,303      |
| Corio, Po                  | 5,122      |
| Cosne la Nièvre            | 2,300      |
| Cote-Saint Andre, L'Isere  | 3,617      |
| Couches, Saône & Loire     | 1,277      |
| Coucy le Chateau, L'Aisne  | 800        |
| Couhe, la Vienna           | 982        |
| Conlanges, L'Yonne         | 1,654      |
| Coulommiers, Seine & Mar.  | 3,533      |
| Courtenay, le Loiret       | 2,435      |
| Courtray, la Lys           | 3,573      |
| Courville, Eure & Loir     | 1,381      |
| Coussell, Sarre            | 1,425      |
| Coutances, la Manche       | 8,507      |
| Coutras, Gironde           | 3,060      |
| Couvin, Ardennes           | 2,496      |
| Cozes, Charente Inferieure | 1,889      |
| Craon, la Mayenne          | 3,312      |
| Craponne, la Haute loire   | 3,216      |
| Crecy, Seine & Marne       | 1,040      |
| Creil, l'Oise              | 1,000      |
| Cremieux, l'Isere          | 2,123      |
| Crepv, l'Oise              | 2,305      |
| Cressensac, le Lot         | 4,500      |
| Creutznach, Rhin et Mos.   | 3,187      |
| Crevecoeur, l'Oise         | 2,013      |
| Crevelt, la Roer           | 8,319      |
| Croson, Finistere          | 6,492      |
| Cruyshautem, Escaut        | 5,145      |
| Cuers, Var                 | 4,890      |
| Cusset, l'Allier           | 3,945      |

## D

|                         |       |
|-------------------------|-------|
| Dammartin, Seine & Mar. | 1,918 |
| Damiano, Marengo        | 6,109 |
| Damville, l'Eure        | 720   |
| Damvillers, la Meuse    | 809   |
| Darney, les Vosges      | 1,033 |
| Dax, les Landes         | 4,398 |

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| Town and Department         | Population | Town and Department           | Population |
|-----------------------------|------------|-------------------------------|------------|
| Decise, la Nievre           | 2,212      | Ernee, la Mayenne             | 4,642      |
| Delle, le Haut Rhin         | 910        | Evry, la Aube                 | 1,973      |
| Delemont, le Haut-Rhin      | 904        | Escommoys, la Sarthe          | 2,662      |
| Demonte, la Stura           | 600.0      | Espalion, l'Aveyron           | 2,622      |
| Dernetal, la Seine Inf.     | 5,000      | Estaires, le Nord             | 3,754      |
| Derval, la Loire-Inferieure | 1,553      | Estampes, Seine and Oise      | 7,687      |
| Deux-Ponts, Mont- tonner.   | 4,976      | Estissac, l'Aube              | 1,255      |
| Die, la Drome               | 3, 968     | Etain, la Meuse               | 2,300      |
| Dieppe, la Seine-Inf.       | 20,000     | Eu, la Seine-Inferieure       | 3,400      |
| Diest, la Dyle              | 5,653      | Eupen, l'Ourte                | 6,749      |
| Dieulefit, la Drome         | 2,847      | Everghem, l'Escaut            | 6,878      |
| Dieuse la Meurthe           | 3,344      | Evian, Leman                  | 1,502      |
| Dignan, le V. Ledignan, G.  | 666        | Evreux, l'Eure                | 8,426      |
| Digne, les Basses-Alpes     | 2,872      | Evron, la Mayenne             | 3,110      |
| Digoin-sur-Loire, Sa. & L.  | 2,233      | Exideuil, la Dordogne         | 870        |
| Dijon, la Cote d'Or         | 18,888     |                               |            |
| Dinan, Cotes du Nord        | 2,925      | F                             |            |
| Dinant, Sambre & Meuse      | 2,964      | Falaise, le Calvados          | 14,000     |
| Dives, Calvados             | 410        | Faonet le, le Morbihan        | 2,591      |
| Dixmude, La Lys             | 2,521      | Fai- Billot le, la Haut Marne | 9,991      |
| Dol, l'Ille & Vilaine       | 2,787      | Faulquemont, la Moselle       | 1,005      |
| Dole, le Jura               | 8,235      | Fauville, Seine-Inferieure    | 1,346      |
| Domfront, l'Orne            | 1,548      | Fecamp, Seine- Inferieure     | 7,000      |
| Donjon, l'Allier            | 1,421      | Fellein, la Creuse            | 2,666      |
| Donnemarie, Seine & Mar.    | 1,250      | Fere Champenoise, la Mar.     | 1,880      |
| Donzenac, la Correze        | 2,012      | Fere en-Tardenois, l'Aisne    | 1,884      |
| Dorat, la Haute-Vienne      | 3,096      | Fere la, l'Aisne              | 2,604      |
| Dormans, la Marne           | 2,108      | Ferte-Aleps la, Seine&Oise    | 780        |
| Douai, le Nord              | 18,230     | Ferte-Bernard la, la Sarthe   | 2,314      |
| Doudeville, Seine-Inferi.   | 2,929      | Ferte-Gaucher la, S. & M.     | 1,800      |
| Done, Maine & Loire         | 1,805      | Ferte Lowendal la, leLoiret   | 1,558      |
| Doulens, la Somme           | 2,946      | Ferte Milon la, l'Aisne       | 2,072      |
| Doulevant, la Haute-Marne   | 643        | Ferte-sous-Jouarre la, S&M    | 3,703      |
| Doardan, Seine & Oise       | 2,870      | Feurs, la Loire               | 1,796      |
| Draguignan, le Var          | 6,561      | Figeac, le Lot                | 6,452      |
| Dreux, Eure & Loir          | 5,437      | Fismes, la Marne              | 2,129      |
| Dronero, la Stura           | 6,342      | Flavigny, la Cote d'Or        | 1,305      |
| Dunkerque, Le Nord          | 21,158     | Fleche la, la Sarthe          | 5,099      |
| Dun-Sur-Auron, Le Cher      | 2,710      | Fleurance, le Gers            | 3,031      |
| Dun Sur-Meuse, La Meuse     | 988        | Florac, la Lozere             | 1,905      |
| Duren, Roer                 | 3,439      | Foix, l'Ariege                | 3,600      |
| Duretal, Maine and Loire    | 3,107      | Fontainebleau, Se. & Mar.     | 7,421      |
|                             |            | Fontenay, la Vendee           | 6,500      |
| E                           |            | Forback, la Moselle           | 1,881      |
| Ecouen, Seine and Oise      | 992        | Forcalquier, les Basses Alp.  | 2,539      |
| Ecloo, Escaut               | 5,827      | Forges-les Eaux, Seine Inf.   | 1,201      |
| Elbeuf, Seine-Inferieure    | 5,400      | Fossano, Stura                | 14,000     |
| Elne, Les Pyrenees Orient.  | 1,196      | Fougères, l'Ille & Vilaine    | 7,297      |
| Enbrun, Le: Hautes Alpes    | 3,138      | Frankenthal, Mont. Ton.       | 3,235      |
| Enghein, Jemmapes           | 3,045      | Frangy, Leman                 | 814        |
| Ensisheim, Le Haut-Rhin     | 1,809      | Frejus, le Var                | 2,220      |
| Entrevaux, LesBassesAlpes   | 1,326      | Fresnay-sur-Sarthe, la Sar.   | 1,555      |
| Epernai, La Marne           | 4,430      | Fruges, le Pas-de-Calais      | 2,700      |
| Epinal, Les Vosges          | 7,321      | Fumay, les Ardennes           | 1,740      |

| Town and Department           | Population | Town and Department            | Population |
|-------------------------------|------------|--------------------------------|------------|
| Fumel, Lot and Garonne        | 2,075      | Hamme, l'Escaut                | 7,238      |
| Furnes, la Lys                | 3,226      | Harcourt-Thury, le Calvados    | 977        |
| <b>G</b>                      |            | Hasselt, Meuse-Inferieure      | 5,824      |
| Gace, l'Orne                  | 1,186      | Havre(le), Seine-Inferieure    | 16,000     |
| Caillac, le Tarn              | 6,465      | Haye (la), Indre & Loire       | 850        |
| Gaillon, l'Eure               | 980        | Hay-Peynel (la), la Manche     | 957        |
| Gand, l'Escaut                | 55,166     | Hazebrouck, le Nord            | 6,611      |
| Ganges, l'Herault             | 3,622      | Hede, l'Ille & Vilaine         | 685        |
| Gannat, l'Allier              | 4,154      | Hennebon, le Morbihan          | 4,548      |
| Gap, Hautes-Alpes             | 8,050      | Henrichemont, le Cher          | 2,633      |
| Geel, Deux Nethes             | 3,460      | Herbiers les, la Vendee        | 1,910      |
| Genape, la Dyle               | 1,186      | Herisson, l'Allier             | 1,057      |
| Geneve, Lemane                | 22,759     | Herve, l'Ourte                 | 2,785      |
| Genlis, Cote d'Or             | 707        | Hesdin, le Pas-de Calais       | 3,793      |
| Genolhac, Le Gard             | 1,502      | Hieres, le Var                 | 6,528      |
| Gex, Lemane                   | 2,461      | Heystopdenberg, D. Nethes      | 5,320      |
| Giavone, le Po                | 7,500      | Honfleur, Le Calvados          | 8,664      |
| Gien, le Loiret               | 5,117      | Houdan, Seine and Oise         | 1,700      |
| Gignac, l'Herault             | 2,785      | Huningue, le Haut Rhin         | 774        |
| Gimont le Gers,               | 2,300      | Huy, l'Ourte                   | 5,014      |
| Gisors, l'Eure                | 3,500      | <b>I</b>                       |            |
| Givet, les Ardennes           | 3,533      | Illiers, Eure and Loire        | 2,617      |
| Gondrecourt, la Meuse         | 1,113      | Iseghem, Lys                   | 6,847      |
| Gonesse, Seine and Oise       | 2,400      | Isigny, Le Calvados            | 1,829      |
| Gorze, Moselle                | 1,598      | Isle l', Vaucluse              | 5,155      |
| Gourdon, le Lot               | 3,703      | Isle-Bouchard l', Indre&L'e    | 1,600      |
| Gournay, Seine-Inferieure     | 3,543      | Isle d'Oleron l', Charante I.  | 4,249      |
| Gramat, le Lot                | 1,842      | Isle en Doudon l', H. G.       | 1,100      |
| Grammont, l'Escaut            | 5,948      | Isle en Jourdain, le Gers      | 4,068      |
| Grancey-le-Chateau, d'Or      | 687        | Isle l' sur le Doubs, le Doubs | 685        |
| Grand-Pre, les Ardennes       | 1,350      | Isle Jourdain, la Vienne       | 448        |
| Grandville, la Manche         | 5,452      | Issoire, le Fay-de-Dome        | 5,095      |
| Grandvilliers, l'Oise         | 1,633      | Issoudun, l'Indre              | 10,265     |
| Grasse, le Var                | 12,321     | Is-sur-Tille, la Cote d'Or     | 1,598      |
| Grasse (la) l'Aude            | 1,123      | Ivree, Doire                   | 7,020      |
| Grave (la) Hautes-Alpes       | 1,829      | <b>J</b>                       |            |
| Gravelines, le Nord           | 2,727      | Jarnac, la Charante            | 1,725      |
| Gray, la Haute Saone          | 5,100      | Joigny, l'Yonne                | 5,132      |
| Grenade-sur-Garonne, H.G.     | 3,500      | Joinville, la Haute-Marne      | 3,160      |
| Grenade-sur-l'Adour, les L.   | 1,330      | Jonsac, la Charante-Infe're    | 2,509      |
| Grenoble, Isere               | 20,654     | Josselin, le Morbihan          | 2,678      |
| Grisolles, Tarn & Garonne     | 2,020      | Joyeuse, l'Ardeche             | 1,074      |
| Gueldres, Roer                | 1,556      | Juliers, Roer                  | 2,126      |
| Gueraude, Loire-Inferieure    | 7,222      | Jumetz, Jemmappe               | 5,205      |
| Guerche (la) l'Ille & Vilaine | 3,578      | Jussey, la Haute-Saone         | 3,038      |
| Gueret, la Creuse             | 3,125      | <b>K</b>                       |            |
| Guingamp, Cotes-du-Nord       | 5,190      | Kayserslautern, Mont-Ton.      | 2,368      |
| Guise, l'Aisne                | 3,039      | <b>L</b>                       |            |
| Gy, la Haute-Saone            | 2,695      | Lagny, Seine & Marne           | 1,836      |
| <b>H</b>                      |            | Laignes, la Cote d'Or          | 658        |
| Haguenau, le Bas-Rhin         | 7,094      |                                |            |
| Hall, la Dyle                 | 3,746      |                                |            |

# APPENDIX.

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| Town and Department         | Population |
|-----------------------------|------------|
| Lamballe, Cotes-du-Nord     | 3,803      |
| Lambesc, Bourches-du-Rh.    | 4,100      |
| Lambazellec, Finistere      | 6,092      |
| Landau, Bas-Rhin            | 5,123      |
| Landernau, le Finistere     | 3,577      |
| Landivisiau, le Finistere   | 2,124      |
| Landrecy, le Nord           | 2,867      |
| Langeac, Haute-Loire        | 1,975      |
| Langeais, Indre & Loire     | 2,233      |
| Langogne, la Lozere         | 2,923      |
| Langon, la Gironde          | 3,208      |
| Langres, Haute-Marne        | 7,283      |
| Languidic, Morbihan         | 6,076      |
| Lannion, Cotes-du-Nord      | 3,132      |
| Lans-le-Bourg, Mont Blanc   | 874        |
| Laon, l'Aisne               | 6,691      |
| Lauterbourg, le Bas-Rhin    | 1,941      |
| Lauzerte, l'arn and Gar.    | 3,608      |
| Lauzun, Lot and Garonne     | 1,089      |
| Laval, la Mayenne           | 15,167     |
| Lavaur, le Tarn             | 6,237      |
| Lectoure, le Gers           | 5,453      |
| Ledignan, le Gard           | 666        |
| Lens                        | 2,325      |
| Lesignan, l'Aude            | 1,503      |
| Lesneven, le Finistere      | 2,030      |
| Lespaze, la Gironde         | 800        |
| Lezoux, le Puy-de-Dome      | 3,307      |
| Libourne, la Gironde        | 8,076      |
| Liege, l'Ourte              | 50,000     |
| Lierre, les Deux Nethes     | 9,581      |
| Lignieres, le Cher          | 1,205      |
| Ligny, la Meuse             | 2,815      |
| Lille, le Nord              | 54,756     |
| Lillebonne, la Seine Infer. | 601        |
| Lillers, Pas-de-Calais      | 4,107      |
| Limbourg, Ourte             | 1,484      |
| Limoges, la Haute Vienne    | 20,255     |
| Limours, Seine and Oise     | 858        |
| Limoux, l'Aude              | 5,142      |
| Linas, Seine and Oise       | 1,590      |
| Lisle, Tarn                 | 5,230      |
| Lisieux, le Calvados        | 10,171     |
| Lizy, Seine and Marne       | 1,200      |
| Loches, Indre and Loire     | 4,342      |
| Locmigne, le Morbihan       | 5,429      |
| Lodeve, l'Herault           | 7,449      |
| Lokeren, l'Escaut           | 11,941     |
| Lombes, le Gers             | 1,443      |
| Longny, l'Orne              | 1,917      |
| Louguen, la Meselle         | 1,611      |
| Longwy, la Moselle          | 2,169      |
| Loujumeau, Seine and Oise   | 1,434      |
| Loos le Saunier, le Jura    | 6,043      |

| Town and Department       | Population |
|---------------------------|------------|
| Lorgues, le Var           | 4,923      |
| L'Orient, le Morbihan     | 17,837     |
| Loriot, La Drome          | 2,392      |
| Lorme, La Nievre          | 2,416      |
| Lorris, Le Loiret         | 1,526      |
| Loudeac, Cotes du Nord    | 6,096      |
| Loudun, la Vienne         | 5,150      |
| Louhans, Saone and Loire  | 2,849      |
| Lourdes, Hautes Pyrenees  | 3,741      |
| Louvain, la Dyle          | 25,000     |
| Louviers, l'Eure          | 6,619      |
| Lozolo, Sesia             | 6,190      |
| Lucon, la Vendee          | 2,630      |
| Lucy-le-Bois, l'Yonne     | 830        |
| Lude le, la Sarthe        | 3,018      |
| Lunel, l'Herault          | 4,200      |
| Luneville, la Meurthe     | 10,436     |
| Lure, la Haut Saone       | 1,928      |
| Lusignan, la Vienne       | 2,390      |
| Luxembourg, les Forets    | 9,002      |
| Luxeuil, Haute Saone      | 3,080      |
| Luzarches, Seine and Oise | 1,800      |
| Luzy, la Nievre           | 1,607      |
| Lyon, Rhone               | 88,919     |
| Lyon d'Angers le, M. & L. | 1,724      |
| Lyons-la-Forest, l'Eure   | 1,828      |

## M

|                            |        |
|----------------------------|--------|
| Macheoul, la Loire Infer.  | 1,899  |
| Macon, Saone and Loire     | 10,807 |
| Maestricht, Meuse Infer.   | 17,963 |
| Magny, Seine and Oise      | 1,402  |
| Magny-Guiscard, l'Oise     | 1,287  |
| Maintenon, Eure and Loire  | 1,605  |
| Malesherbes, le Loiret     | 945    |
| Malines, les Deux-Nethes   | 16,072 |
| Mamers, la Sarthe          | 5,382  |
| Manosque, Basses-Alpes     | 5,360  |
| Mans le, la Sarthe         | 18,081 |
| Mansle, la Charente        | 1,231  |
| Mantes-sur-Seine, S. & O.  | 4,300  |
| Marans, la Charente-Inf.   | 4,682  |
| Marche, Sambre & Meuse     | 1,257  |
| Marche la, les Vosges      | 1,554  |
| Marchiennes, le Nord       | 2,309  |
| Marckolsheim, le Bas-Rhin  | 1,453  |
| Marcillar, Puy-de-Dome     | 6,649  |
| Marennas, la Charente Inf. | 4,633  |
| Mareuil, la Dordogne       | 773    |
| Maringue, le Puy-de-Dome   | 3,800  |
| Marle, l'Aisne             | 1,616  |
| Marmande, Lot & Garonne    | 6,043  |
| Marseille, Bou. du-Rhone   | 96,413 |
| Martel, le Lot             | 2,711  |

| Town and Department         | Population | Town and Department          | Population |
|-----------------------------|------------|------------------------------|------------|
| Martigues les, Bou. du-Rho. | 6,869      | Mondovi, Stura               | 21,557     |
| Marvejols, la Lozere        | 3,611      | Monein, Basses-Pyrenees      | 5,159      |
| Massat, l'Ariege            | 7,073      | Monistrol, la Haute-Loire    | 3,993      |
| Mas-d'Azil le, l'Ariege     | 2,482      | Mons, Jemmape                | 18,291     |
| Maseyck, Meuse Inferieure   | 2,505      | Montagnac, l'Hemault         | 3,100      |
| Massiac, le Cantal          | 2,572      | Montaigut, le Puy-de-Dome    | 1,460      |
| Matour, Saone et Loire      | 2,062      | Montaign, la Vendee          | 1,011      |
| Maubeuge, le Nord           | 4,626      | Montargis, le Loiret         | 6,394      |
| Mauleon, Basses Pyrennees   | 1,010      | Montauban, Tarn & Gar.       | 21,950     |
| Mauriac, le Cantal          | 2,572      | Montauban, l'Ille & Vil.     | 2,781      |
| Mauris, le Cantal           | 2,045      | Montbart, la Cote d'Or       | 2,118      |
| Mauze, les Deux-Sevres      | 1,600      | Monthazon, Indre & Loire     | 950        |
| Mayence, Mont Tonnere       | 22,325     | Montbelliard, le Haut Rhin   | 3,693      |
| Mayenne, la Mayenne         | 9,095      | Montbrison, la Loire         | 4,703      |
| Mazamet, le Tarn            | 5,474      | Mont Cenis, Saone & Loire    | 1,068      |
| Meaux, Seine and Marne      | 6,648      | Montdidier, la Somme         | 4,949      |
| Mehun-sur-Yevre, le Cher    | 1,267      | Mont de-Marsan, les Lan.     | 2,866      |
| Meissenheim, Surre          | 1,890      | Mondoubleau, Loir & Cher     | 1,749      |
| Melle, les Deux Sevres      | 1,741      | Montebourg, la Manche        | 2,391      |
| Melun, Seine and Marne      | 6,111      | Montech, Tarn & Garonne      | 2,600      |
| Mende, la Lozere            | 5,014      | Montelimart, la Drome        | 6,320      |
| Menin, la Lys               | 4,911      | Montendre, Char. Infer.      | 852        |
| Mens, l'Isere               | 1,883      | Montereau, Seine & Marne     | 3,435      |
| Menton, Alpes Maritimes     | 3,289      | Montet-aux-Moines le, l'Al.  | 450        |
| Mer, Loir and Cher          | 4,300      | Mont-Flanquin, Lot & Gar.    | 5,038      |
| Meru, l'Oise                | 1,800      | Mont-fort, l'Ille and Vil.   | 1,115      |
| Merueys, la Lozere          | 2,890      | Montfort-Lamaury, S. & O.    | 2,400      |
| Merville, le Nord           | 5,301      | Montierender, la Haute-M.    | 1,478      |
| Mery-sur-Seine, l'Aube      | 1,764      | Montignac, la Dordogne       | 3,000      |
| Mesle-sur-Sarthe le, l'Orne | 644        | Montigny, la Haute-Marne     | 1,061      |
| Metz, la Moselle            | 38,656     | Montivilliers, la Seine-Inf. | 4,000      |
| Meulan, Seine and Oise      | 2,100      | Mont-Lieu, Char. Infer.      | 650        |
| Meulebeke, Lys              | 6,660      | Mont-Louis, les Pyr. Orien.  | 418        |
| Meung-sur-Loire, le Loiret  | 4,418      | Mont-Lucon, l'Allier         | 5,584      |
| Meximieux, l'Ain            | 1,691      | Mont-Luel, l'Ain             | 3,651      |
| Meze, l'Herault             | 2,800      | Montmarault, l'Allier        | 890        |
| Mezieres, les Ardennes      | 3,310      | Mont-Medy, la Meuse          | 1,889      |
| Mielan, le Gers             | 1,403      | Montmeillant, Mont-Blanc     | 1,165      |
| Milhaut, l'Aveyron          | 6,077      | Montmirail, la Marne         | 2,098      |
| Milly, Seine and Oise       | 1,905      | Montmorency, Seine & Oise    | 1,800      |
| Mirambeau, la Char. Inf.    | 2,170      | Montmorillon, la Vienne      | 3,936      |
| Mirande, le Gers            | 1,558      | Montoire, Loir and Cher      | 2,260      |
| Mirebeau, la Cote d'Or      | 1,100      | Montpazier, la Dordogne      | 1,028      |
| Mirebeau, la Viende         | 2,021      | Montpellier, l'Herault       | 32,723     |
| Mirecourt, les Vosges       | 5,084      | Montpont, la Dordogne        | 1,500      |
| Mirepoix, l'Ariege          | 2,819      | Montrejeau, Hunte-Garon.     | 2,515      |
| Modane, Mont Blanc          | 925        | Montreuil-sur-Mer, P. de C.  | 3,534      |
| Mœurs, Roer                 | 2,111      | Montrichard, Loir & Cher     | 1,814      |
| Moissac, Tarn et Garonne    | 10,045     | Mont-Segur, Gironde          | 1,440      |
| Molsheim, le Bas-Rhin       | 2,534      | Moret, Seine & Marne         | 1,650      |
| Monaco, Alpes Maritimes     | 1,130      | Moretta, Stura               | 5,200      |
| Moncalieri, Po              | 7,300      | Morez, le Jura               | 1,218      |
| Moncontour, lesCotes du N.  | 1,685      | Morlaix, le Finistere        | 9,351      |
| Moncornet, l'Aisne          | 1,250      | Mormans, Seine & Marne       | 993        |



# APPENDIX.

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| Town and Department          | Population | Town and Department           | Population |
|------------------------------|------------|-------------------------------|------------|
| Mortagne, l'Orne             | 5,720      | Nogent Roulebos, E. & L.      | 1,290      |
| Mortagne, la Vendee          | 633        | Nogent-sur Seine, l'Aube      | 3,208      |
| Mortain, la Manche           | 2,650      | Noirmoutier, la Vendee        | 5,405      |
| Morteau, le Doubs            | 1,384      | Nolay, la Cote-d'Or           | 2,039      |
| Mortree, l'Orne              | 975        | Nonancourt, l'Eure            | 1,143      |
| Mothe Saint-Heraye la, D. S. | 2,515      | Nord Libre, Nord              | 5,978      |
| Moulins, l'Allier            | 13,509     | Noyal, Morbihan,              | 7,084      |
| Moulins en Gilbert. la Nie.  | 2,500      | Noyers, l'Yonne               | 1,897      |
| Moulins, l'Orne              | 878        | Noyon, l'Oise                 | 5,699      |
| Montiers, Mont-Blanc         | 2,005      | Nozay, Loire-Inferieure       | 2,030      |
| Mouzon, les Ardennes         | 2,143      | Nuits, la Cote-d'Or           | 2,541      |
| Mulhausen, Haut Rhin         | 6,018      | Nyons, la Drome               | 2,725      |
| Murat, le Cantal             | 2,537      |                               |            |
| Mur-de-Barez, l'Aveyron      | 981        |                               |            |
| Mure la, Isere               | 1,686      | O                             |            |
| Muret, Haute Garonne         | 3,141      | Oberstein, Sarre              | 1,353      |
| Mussidan, la Dordogne        | 1,176      | Oleron, Basses-Pyrenees       | 5,515      |
| Mussillac, le Morbihan       | 3,605      | Olhoulles, le Var             | 2,591      |
| Mussy-sur-Seine, l'Aube      | 1,691      | Orange, Vaucluse              | 7,270      |
|                              |            | Orbec, le Calvados            | 3,600      |
| N                            |            | Ormea, Stura                  | 5,227      |
| Namur, Sambre & Meuse        | 15,085     | Orchies, le Nord              | 2,778      |
| Naney, la Meurthe            | 28,227     | Orgelet, le Jura              | 1,224      |
| Nangis, Seine & Marne        | 1,999      | Orgon, Bouches du-Rhone       | 2,461      |
| Nant, l'Aveyron              | 2,271      | Orleans, le Loiret            | 41,937     |
| Nanterre, Seine              | 2,300      | Ornana, le Doubs              | 3,500      |
| Nantes, Loire Inferieure     | 77,162     | Orthez, Basses-Pyrenees       | 1,417      |
| Nanteuil-le-Haudouin Oise    | 1,401      | Ostende, la Lys               | 10,459     |
| Nantua, l'Ain                | 2,791      | Oulchy-le-Chateau, L'Aisne    | 533        |
| Napoleon, Vendee             | 1500       |                               |            |
| Napoleon-Ville, Morbihan     | 3,090      | P                             |            |
| Narbonne, l'Aude             | 9,086      | Pacaudiere la, Loire          | 1,426      |
| Navarreins, Basses Pyrenees  | 1,300      | Pacy-sur-Eure, l'Eure         | 1,750      |
| Nemours, Seine & Marne       | 3,760      | Paimbeuf, Loire Inferieure    | 4,220      |
| Nerac, Lot & Garonne         | 5,587      | Paimpol, les Cotes-du-Nord    | 1,679      |
| Neale, la Somme              | 1,567      | Palaiseau, Seine & Oise       | 1,750      |
| Neuf-Bourg le, Eure          | 1,980      | Palisse la, Allier            | 1,800      |
| Neuf-Brissac, le Haut-Rhin   | 1,682      | Pamiers, l'Ariege             | 6,174      |
| Neuf-Chateau, Vosges         | 2,700      | Paray-le-Monia, Laone & L.    | 2,848      |
| Neuf-Chatel, Seine-Inferi.   | 2,838      | Paris, Seine                  | 547,756    |
| Neuilly-sur-Seine, Seine     | 1,500      | Parthenay, Les Deux-Sev.      | 3,213      |
| Neuilly S. Front, l'Aisne    | 1,807      | Pau, Basses Pyrenees          | 8,465      |
| Neuss, Roer                  | 4,423      | Peage le de Roussillon, Isere | 863        |
| Neustadt, Mont-Tonnerre      | 2,775      | Penne, Lot-&-Garonne          | 5,054      |
| Neuville-aux-Bois, le Loiret | 1,887      | Periers, La Manche            | 2,557      |
| Neuvy, Indre et Loire        | 1,888      | Perigueux, La Dordogne        | 5,733      |
| Nevers, la Nievre            | 11,200     | Peronne La Somme              | 3,706      |
| Nice, Alpes maritime         | 18,473     | Perpignan, Pyr. Orientales    | 10,000     |
| Nieuport, la Lys             | 2,983      | Peruvelz, Jemmapes            | 5,302      |
| Niort, les Deux-Sevres       | 15,028     | Pertuis, Vaucluse             | 4,000      |
| Nismes, le Gard              | 39,594     | Peyrac, Le Lot                | 902        |
| Nivelles, la Dyle            | 6,537      | Pezenas, L'Herault            | 6,903      |
| Nizza, Montenotte            | 5,000      | Pealsbourg, La Meurthe        | 2,033      |
| Nogaro, le Gers              | 1559       | Philippeville, Les Ardennes   | 1,202      |
| Nogent-le-Rotrou, E. & L.    | 6,515      | Picquigny, Somme              | 1,253      |

| Towns and Department          | Population | Towns and Department           | Population |
|-------------------------------|------------|--------------------------------|------------|
| Pierre-Buffière, la H. Vienne | 813        | Q                              |            |
| Pierrefort, Cantal            | 1,266      | Quesnoy le, Nord               | 4,002      |
| Pierre-Latte, La Drome        | 2,536      | Quilan, l'Aude                 | 1,568      |
| Pignerolle, Po                | 10,086     | Quimper, le Finistere          | 6,651      |
| Pithiviers, Le Loiret         | 3,071      | Quimperle, le Finistere        | 5,617      |
| Plaisance, Le Gers            | 1,260      | Quingey, le Doubs              | 1,079      |
| Planconet, Les Cotes du Nord  | 653        | Quintin, les Cotes du Nord     | 3,976      |
| Pleurtaut, L'Ille & Vilaine   | 6,596      |                                |            |
| Plelan, L'Ille & Vilaine      | 2,917      | R                              |            |
| Ploermel, Le Morbihan         | 4,512      | Rabasteins le Tarn             | 6,076      |
| Plombiers, Les Vosges         | 1,009      | Raconis, Stura                 | 10,536     |
| Podensac, Gironde             | 1,425      | Rambervillers, les Vosges      | 4,926      |
| Poirino, Po                   | 5,000      | Rambouillet, Seine & Oise      | 2,588      |
| Poissy, Seine & Oise          | 2,437      | Raon-l'Etape, les Vosges       | 2,528      |
| Poitiers, la Vienne           | 18,223     | Rebais, Seine and Marne        | 1,256      |
| Pois, La Somme                | 751        | Redon, l'Ille and Vilaine      | 3,783      |
| Poligny, Le Jura              | 5,388      | Regmalard, l'Orne              | 1,702      |
| Pons, la Charente-Inf.        | 4,500      | Remiremont, Vosges             | 3,950      |
| Pontallier-sur-S. la C-d'Or   | 1,270      | Renaix, Escaut                 | 9,499      |
| Pont-a-Mousson, la Meurthe    | 6,738      | Rennets, l'Ille & Vilaine      | 25,904     |
| Pontarlier, Le Doubs          | 3,880      | Reole la, la Gironde           | 3,808      |
| Pont-Audemer, L'Eure          | 5,207      | Rethel, les Ardennes           | 4,862      |
| Pontchateau, La Loire-Inf.    | 2,572      | Revelo, Stura                  | 5,001      |
| Pont-Croix, Le Finistere      | 1,355      | Rheims, la Marne               | 30,225     |
| Pont-d'Ain, L'Ain             | 1,089      | Rhodez, l'Aveyron              | 6,233      |
| Pont de Beauvoisin, L'Is.     | 1,482      | Rhinberg, la Roer              | 1,706      |
| Pont-de-Larche, L'Eure        | 1,462      | Ribay le, Mayenne              | 1,022      |
| Pont-de-Lempedes, Hau. L.     | 925        | Riberac, la Dordogne           | 2,985      |
| Pont-de-Vaux, L'Ain           | 2,100      | Richelieu, Indre & Loire       | 3,660      |
| Pont-l'Evêque, le Calvados    | 2,500      | Riez, les Basses-Alpes         | 2,784      |
| Pontoise, Seine & Oise        | 5,174      | Rignac, Aveyron                | 851        |
| Pontorson, la Manche          | 1,320      | Riom, le Puy-de-Dome           | 12,328     |
| Pontrieux, les Cotes du N.    | 1,276      | Rioz, Haute-Saone              | 578        |
| Pont Saint-Esprit le Gard     | 4,045      | Rive-de-Gier, la Loire         | 4,263      |
| Pont Seine-Maxence, Oise      | 2,560      | Rives, l'Isere                 | 1,530      |
| Pont sur Yonne, l'Yonne       | 1,442      | Rivoli, Po                     | 5,070      |
| Poperingne, Lys               | 7,967      | Roanne, Loire                  | 6,992      |
| Porentrui, la Haut-Rhin       | 2,032      | Roche-Bernard la, le Mor.      | 6,272      |
| Pornic, le Loire-Inferieure   | 806        | Rochechouart, Haut-Vienne      | 1,440      |
| Port de liberte le, Morbihan  | 2,630      | Rochefort, la Charente In.     | 15,000     |
| Port Sainte Marie, Lot & G.   | 2,805      | Roche foucault la, la Charente | 2,586      |
| Port sur Saone le, Haute Sa.  | 1,914      | Roche lle la, la Charente In.  | 17,512     |
| Pouilly sur Loire, la Nievre  | 2,648      | Rocroy, les Ardennes           | 2,875      |
| Poussauge, Vendee             | 220        | Romans, la Drome               | 6,473      |
| Prades, Pyrenees Orientales   | 2,332      | Romorantin, Loir & Cher        | 6,105      |
| Preuilly, Indre & Loire       | 1,680      | Rocqefort, les Landes          | 1,077      |
| Preenpail, Mayenne            | 2,669      | Roquemaure, le Gard            | 3,162      |
| Privas, l'Ardeche             | 2,923      | Roquevaire, Bouches-du-R.      | 3,182      |
| Provins, Seine & Marne        | 5,500      | Rosay, Seine & Marne           | 1,507      |
| Prugnet Thoniers, A. Marit.   | 914        | Rosporden, le Finistere        | 560        |
| Puttelange, la Moselle        | 1,816      | Rostrenen, Cotes-du-Nord       | 981        |
| Puy-en-Velay, Haute-loire     | 12,069     | Roubaix, Nord                  | 8,091      |
| Puy-laurent, le Tarn          | 5,648      | Rouen, Seine Inferieure        | 87,000     |
|                               |            | Roulers, Lys                   | 8,063      |

# APPENDIX.

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| Town and Department            | Population | Town and Department           | Population |
|--------------------------------|------------|-------------------------------|------------|
| Rouffac, le Haut Rhin          | 3,292      | Saint-Georges sur L. M. & I.  | 2,320      |
| Roye, la Somme                 | 3,176      | St. German-en-laye, S. & O.   | 8,954      |
| Rue, la Somme                  | 1,346      | St. Gilles, le Gard           | 5,047      |
| Ruffec, la Charente            | 2,110      | St. Gilles-sur-vic, la Vandee | 780        |
| Rugles, l'Eure                 | 1,631      | St Girons, L'Ariege           | 2,504      |
| Rumbecke, Lys                  | 5,525      | St. Hermian, la Vendee        | 406        |
| Rumily, le Mont-Blanc          | 2,757      | St. Hilaire du Marconet, la   | 1,957      |
| Ruremonde, Meuse-In.           | 3,787      | St. Hippolyte, le Gard        | 5,052      |
| Ruyssede, Lys                  | 5,281      | St. James, la Manche          | 2,522      |
| S                              |            | St. Jean d'Angely, la Ch. I.  | 5,400      |
| Saar-Union, le Bas Rhin        | 2,791      | St. Jean-dn-Gard, le Gard     | 3,203      |
| Sable, la Sarthe               | 3,066      | St. Jean-de-luz, Basses. Py.  | 2,253      |
| Sables-d'Olonne les, la Ven.   | 5,168      | St Jean de Meurienne, M. B.   | 2,258      |
| Saillans, la Drome             | 1,490      | St Jean pied de port, Ba. py. | 2,286      |
| Saint Afric, l'Aveyron         | 3,578      | St. Junien, la haute Vienne   | 5,934      |
| Saint-Aignan, Loir & Cher      | 2,494      | St Just, L'Oise               | 823        |
| Saint-Amand, le Cher           | 5,106      | St Laurent, Gironde           | 549        |
| Saint-Amand, le Nord           | 8,039      | St. Leonard, la haute Vien.   | 4,815      |
| Saint-Ambroix, le Gard         | 2,950      | St. Lis, la Haute Garonne     | 1,140      |
| Saint-Amour, le Jura           | 2,700      | St. Livrade, Lot & Garonne    | 2,639      |
| Saint-Andre-Cubjac, Gir.       | 5,279      | St. Lo, la Manche             | 6,987      |
| St. Antonin, Tarn & Garonne    | 5,396      | St. Macaire, Gironde          | 1,483      |
| St. Aubain du Cormier, I. & V. | 1,102      | St. Maixent, les Deux Sey.    | 3,980      |
| Saint-Avoid, la Moselle        | 2,726      | St. Malo, Ille & Vilaine      | 9,147      |
| Saint-Beat, Haut Garonne       | 1,056      | St. Marcellin, L'Isere        | 3,047      |
| St. Benoit du Sault, l'Indre   | 1,081      | St Martin de Re, la Ch. Inf.  | 2,723      |
| St. Bonnet de Joux, S. & L.    | 1,321      | St. Martory, la Haute Garon.  | 988        |
| St. Brieuc, Cotes-du-Nord      | 8,090      | St. Maximir, le Var           | 3,980      |
| Saint-Calais, la Sarthe        | 3,630      | St. Mihel, la Meuse           | 5,541      |
| Saint-Cere, le Lot             | 3,798      | St. Nicholas, L'Escaut        | 10,980     |
| Saint-Chamond, la Loire        | 4,997      | St Nicholas d la G. T. & G.   | 2,500      |
| Saint Chely, la Lozere         | 2,013      | St. Nicolas du port la Meu.   | 2,700      |
| Saint-Chinian, l'Herault       | 2,838      | St. Omer, le pas de Calais    | 20,109     |
| Saint-Clar, le Gers            | 1,290      | St. Palais, Basses Pyrenees   | 1,000      |
| Saint-Claud, la Charente       | 2,008      | St. Peray, L'Ardeche          | 1,652      |
| Saint-Claude, le Jura          | 3,579      | St Pierre d'Albigni, M. B.    | 2,714      |
| Saint-Denis, Seine             | 4,425      | St. Pierre le Moutier, la N.  | 1,966      |
| Saint-Die, les Vosges          | 5,346      | St. Pol, Pas de Calais        | 2,949      |
| St. Dizier, la Haute-Marne     | 5,824      | St. Pol de leon, le Finistere | 5,385      |
| Sainte-Foy, Gironde            | 2,830      | St. Pons, l'Herault           | 4,566      |
| St. Marie-aux-Mines, H. R.     | 6,158      | St. Pourcain, l'Allier        | 3,395      |
| St. Maure, Indre & Loire       | 2,271      | St. Quentin, l'Aisne          | 10,477     |
| St. Meneshould, la Marne       | 3,394      | St. Rambert, l'Ain            | 2,596      |
| St. Mere Eglise, la Manche     | 1,425      | St Remi, Bouches du Rhone     | 5,055      |
| Saint-Etienne, la Loire        | 16,295     | St Romain, la Seine Infer.    | 1,200      |
| Saintes, Charente-Inf.         | 10,050     | St Saen, la Seine Inferieure  | 2,520      |
| Saint-Fargean, L'Yonne         | 2,095      | St Salvador, Marengo          | 5,146      |
| Saint-Florentin, L'Yonne       | 3,010      | St Sauveur, Alpes Mar.        | 229        |
| Saint-Flour, le Cantal         | 5,312      | St. Savin, la Vienne          | 848        |
| Saint-Fulgent, la Vandee       | 1,160      | St Savinien du port, la C. I. | 2,878      |
| Saint-Gaudens, Haute-Gar.      | 4,155      | St. Seine, la Cote d'Or       | 753        |
| Saint Geniez, L'Aveyron        | 3,333      | St Sermin, l'Aveyron          | 1,014      |
| Saint-Genesis, Char. Infer.    | 862        | St Servan, l'Ille & Vilaine   | 8,836      |
|                                |            | St Sever, les landes          | 5,844      |

| Town and Department         | Population | Town and Department          | Population |
|-----------------------------|------------|------------------------------|------------|
| St Symphorien de Lay, Loire | 2,255      | Solre le Chateau, Le Nord    | 1,325      |
| St Symphorien d'Ozon, Ia.   | 1,292      | Sombernon, La Cote-d'Or      | 755        |
| St Tronc, la Meuse Infer.   | 5,801      | Somerghem, Escaut            | 6,221      |
| St Tropez, Var              | 3,156      | Sommariva del Bosco, Stura   | 5,050      |
| St Vallery sur Somme, la S. | 3,328      | Sommieres, Le Gard           | 3,366      |
| St Vallery, la Seine Infer. | 5,017      | Songeaons, L'Oise            | 1,041      |
| St Vallier, la Drome        | 1,736      | Sospel, Alpes-Maritimes      | 2,990      |
| St Yrieix, la Haute Vienne  | 5,012      | Souillac, Le Lot             | 1,953      |
| Salbris, Loir & Cher        | 1,260      | Sourdeval, Lamanché          | 5,896      |
| Salins, le Jura             | 8,125      | Souterraine (la) La Creuse   | 2,665      |
| Sallies, Basses Pyrenees    | 6,205      | Souigny, L'Allier            | 2,625      |
| Salon, Bouches du Rhone     | 5,100      | Spire, Mont-Tonnerre,        | 3,744      |
| Saluces, Stura              | 10,150     | Stenay, La Meuse             | 3,599      |
| Samer, le Pas de Calais     | 1,608      | Strasbourg, Le Cas-Rhin      | 49,026     |
| Sancerre, le Cher           | 2,511      | Surgeres, La Charente-Inf.   | 1,477      |
| Sancoins, le Cher           | 1,400      |                              |            |
| San Peyre, Stura            | 5,000      |                              |            |
| Sarreguemines, la Moselle   | 2,999      | T                            |            |
| Sarlet, la Dordogne         | 5,924      | Tain, La Drome               | 1,480      |
| Sarrebouurg, la Meurthe     | 1,454      | Tamise, Escaut               | 5,464      |
| Sarrebruck, Sarre           | 5,191      | Tannay, La Nièvre            | 1,260      |
| Sarre Louis, la Moselle     | 4,630      | Tarrare, Le Rhone            | 2,150      |
| Sarzeau, Morbihan           | 5,380      | Tarascon, L'Ariege           | 1,356      |
| Saujon, la Charente Infer.  | 2,000      | Tarrascon, Bouches-du-R.     | 11,320     |
| Saulieu, la Cote d'Or       | 2,887      | Tarbes, Hautes-Pyrenees      | 6,777      |
| Saumur, Maine & Loire       | 9,636      | Tartas, Les Landes           | 3,212      |
| Sauves, le Gard             | 2,960      | Tauves, Le Puy-de-Dome       | 1,288      |
| Sauze, les Deux Sevrés      | 1,295      | Terrasson, L'Dordogne        | 2,969      |
| Savenay, la Loire Infer.    | 1,814      | Termende, L'Escaut           | 5,028      |
| Saverdun, L'Ariege          | 2,819      | Tete de Buch (la) Gironde    | 2,310      |
| Saverne, le Bas Rhin        | 3,980      | Thiels, Lys                  | 8,804      |
| Savigliano, Stura           | 18,752     | Thiers, La Puy-de-Dome       | 10,605     |
| Schelestat, De Bas-Rhin     | 6,463      | Thionville, Lamoselle        | 5,290      |
| Sedan, Les Ardennes         | 20,634     | Thiviers, La Dordogne        | 1,524      |
| Seez, L'Orne                | 5,471      | Thoissey, L'Ain              | 1,441      |
| Segre, Maine and Loire      | 558        | Thonon, Leman                | 3,164      |
| Selongey, La Cote-d'Or      | 1,878      | Thorigny, La Manche          | 2,277      |
| Semur, La Cote-d'Or         | 4,265      | Thouars, Les Deux-Sevres     | 2,035      |
| Sennecey, Saone and Loire   | 2,345      | Tilly sur-Seulles, Le Calva. | 984        |
| Senlis, L'Oise              | 4,312      | Tiremont, La Dyle            | 7,788      |
| Sens, L'Yonne               | 8,575      | Tongres, Meuse-Inferieure    | 2,973      |
| Serres, Les Hautes-Alpes    | 1,219      | Tonnay-Charcente, Cha. I.    | 2,300      |
| Seure, La Cote d'Or         | 2,777      | Tonneins, Lot and Garonne    | 6,061      |
| Severac le Chateau, L'A.    | 2,113      | Tonnerre, L'Yonne            | 4,261      |
| Sevres, Seine and Oise      | 2,643      | Tortone, Genes               | 8,480      |
| Seyne, Les Basses-Alps      | 2,557      | Tostes, La Seine-Inferieure  | 412        |
| Seyssal, L'Ain              | 2,261      | Touci, L'Yonne               | 21,974     |
| Seranne, La Marne           | 4,149      | Toul, La Meurthe             | 6,940      |
| Sijean, L'Aude              | 1,822      | Toulon, Le Var               | 2,000      |
| Sille-le Guillaume, La Sar. | 2,121      | Toulon-sur-Aroux, S. & L.    | 1,565      |
| Sisteron, Les Basses-Alpes  | 3,891      | Toulouse, Haute-Garonne      | 50,171     |
| Sleydinghe                  | 5,178      | Tour du Pin (la) Isere       | 1,689      |
| Soignies, Jemmapes          | 4,247      | Tournans, Seine & Marne,     | 1,750      |
| Soissons, L'Aspe            | 7,229      | Tournay, Jemmapes            | 21,303     |
|                             |            | Tournon, L'Ardeche           | 3,000      |

# APPENDIX.

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| Town and Department         | Population | Town and Department         | Population |
|-----------------------------|------------|-----------------------------|------------|
| Tournon, Lot & Garonne      | 7,124      | Veynes, Hautes-Alpes        | 1,805      |
| Tournus, Saone & Loire      | 5,149      | Vezelay, l'Yonne            | 1,576      |
| Tours, Indre & Loire        | 20,240     | Vezelize, la Meurthe        | 1,800      |
| Trarbach, Rhin & Moselle    | 506        | Vic sur Losse, le Gers      | 2,850      |
| Treguier, Les Cotes du Nord | 2,064      | Vienne, l'Isere             | 10,362     |
| Treves, Sarre               | 9,118      | Vierzon, le Cher            | 4,000      |
| Trevoux, L'Ain              | 2,530      | Vigan le, Gard              | 3,848      |
| Trie, Hautes-Pyrenees       | 800        | Vignory, la Haute Marne     | 1,169      |
| Trino, Sesia                | 5,405      | Vigon, Po                   | 5,300      |
| Troarn, Le Calvados         | 868        | Vihers, Maine and Loire     | 430        |
| Troyes, L'Aube              | 24,061     | Vilaines la juhel, la May.  | 2,420      |
| Tulle, L'a Correze          | 9,363      | Villafranca, Po             | 6,721      |
| Tullins, L'Isere            | 3,715      | Ville Dieu, la Manche       | 2,624      |
| Turcoing, Le Nord           | 11,038     | Villefort, la Lozere        | 1,003      |
| Turin, Po                   | 79,000     | Villefranche, l'Aveyron     | 9,331      |
| Turnhout, les Deux Neth.    | 8,065      | Ville Franche, Haute Gar.   | 2,034      |
|                             |            | Ville Franche, Le Rhone     | 5,022      |
| V                           |            | Villemur, Haute Garonne     | 5,488      |
| Valancay, l'Indre           | 2,299      | Villenaux, l'Aube           | 2,800      |
| Valence, la Drome           | 7,539      | Villeneuve d'Agen, Lot & G. | 10,500     |
| Valence, Tarn & Garonne     | 2,301      | Villeneuve d'Avignon, le G. | 3,400      |
| Valenciennes, le Nord       | 16,918     | Villeneuve de Berg, l'Ard.  | 2,205      |
| Valenza, Lys                | 7,022      | Villeneuve sur Vanne, l'Y.  | 1,963      |
| Valmont, la Seine Infer.    | 265        | Villeneuve sur Yonne, l'Y.  | 4,945      |
| Valogue, la Manche          | 6,770      | Villers le Bocage, le Cal.  | 732        |
| Valreas, Vaucluse           | 3,327      | Villers Cotterets, l'Aine   | 2,405      |
| Vandœuvre, l'Aube           | 1,716      | Ville sur Augon, la H. M.   | 1,841      |
| Vannes, le Morbihan         | 9,131      | Vimoutiers, l'Orne          | 3,149      |
| Vans les, Ardeche           | 1,514      | Vire, le Calvados           | 7,708      |
| Varades, la Loire Infer.    | 3,016      | Viteaux, la Cote d'Or       | 2,033      |
| Varennes, l'Allier          | 1,780      | Vitre, l'Ille & Vilaine     | 8,809      |
| Varennes, la Meuse          | 1,578      | Vitry sur Marne, la Marne   | 6,925      |
| Varneton, Lys               | 5,054      | Viviers, l'Ardeche          | 1,892      |
| Varzy, la Nièvre            | 2,050      | Vivonne, la Vienne          | 2,295      |
| Vassy, la Haute-Marne       | 2,170      | Vizilles, l'Isere           | 1,655      |
| Vatan, l'Indre              | 2,066      | Voghera, Genes              | 10,023     |
| Vauconleurs, la Meuse       | 2,205      | Void, la Meuse              | 1,108      |
| Vendome, Loir and Cher      | 7,555      | Voiron, l'Isere             | 5,399      |
| Venloo, Meuse Inferieure    | 4,082      | Voute la, Ardeche           | 1,369      |
| Verceil, Sesia              | 16,162     | Vouziers, les Ardennes      | 1,535      |
| Verdun-sur-Meuse, la M.     | 9,136      | Ussel, la Coreze            | 3,036      |
| Verdun-sur le-Doubs, S.&L.  | 1,669      | Utelle, Alpes Maritimes     | 1,463      |
| Vermonton, l'Yonne          | 2,500      | Uzerches, la Correze        | 1,808      |
| Verneuil, l'Eure            | 4,375      | Uzes, le Gard               | 6,350      |
| Vernon, l'Eure              | 5,202      | Waerschoot, Escaut          | 5,208      |
| Vernoux, l'Ardeche          | 1,921      | Wazemmes, Nord              | 5,995      |
| Verpilliere la, Isere       | 580        | Wesel, Roer                 | 8,500      |
| Versailles, Seine and Oise  | 27,574     | Wissembourg, le Bas Rhin    | 4,097      |
| Vertus, la Marne            | 2,559      | Wormhoudt, le Nord          | 3,245      |
| Verviers, l'Ourte           | 10,072     | Worms, Mont Tonnerre        | 5,000      |
| Vervins, l'Aisne            | 2,827      | Ypres, la Lys               | 15,148     |
| Verzuolo, Stura             | 5,002      | Yssingaux, Haute Loire      | 6,482      |
| Vesoul, Haute-Saone         | 5,417      | Yvetot, la Seine Inferieure | 10,000     |
| Veterem, Escaut             | 6,274      | Zeie                        | 7,457      |

*Report of the Minister of the Interior.*

## LEGISLATIVE BODY.

*SITTING OF THE 25th FEBRUARY, 1813.*

"You will perceive with satisfaction, that notwithstanding the great armies which a state of maritime and continental war has obliged us to keep on foot, the population has continued to increase; that our industry has made new progress; that the soil never was better cultivated, nor the manufactories in a more flourishing state; that at no epoch of our history was wealth more equally enjoyed by the various classes of society.

This degree of prosperity is owing to the liberal laws which pervade this great empire—to the suppression of feudality, of the tithe, and of the monastic orders—a suppression that has enfranchised so much private property, which remains this day a free patrimony to a multitude of families, formerly deprived of the full enjoyment of their rights; it is owing to the clearness and simplicity of the laws in regard to property and to mortgages; to the promptitude with which law suits which are decreasing daily, are decided: it is to these real causes, and to the influence of vaccination, that we are to attribute the increase of the population. And why should we not say also, that the conscription itself, which every year places under our banners the most active part of our youths, has contributed to this increase, by multiplying the number of marriages?

## THE POPULATION.

The population of France, in 1789, consisted of 26,000,000 individuals; some writers even reduced their calculations to 25,000,000. The actual population of the empire is 42,700,000 souls; 28,700,000 of whom are of the departments of ancient France. This population is not the result of simple conjecture, but of exact census; which gives an increase of 2,500,000, or nearly one tenth, the last 24 years.

The commerce of an empire which reckons more than seventy millions of products annually, exclusive of other resources, either real or fictitious, those calculators who study political economy, duly appreciate, and must be immense.

If we had sought wealth from sources purely commercial, I do not fear to say that our calculations would have amounted to one hundred millions.

To have commerce, is to place, and always to keep, convenient to the consumer, articles suitable both to his wants and taste.

In 1789, one of the years when the foreign commerce of France was most considerable, the exports amounted only to 357,000,000 francs, and her imports at 400,000,000; for, in the imports, must not be counted the 36,000,000 we received from our colonies, which at that time formed an integral part of France. From the imports must be taken off the specie, which is the payment made by the foreigner for some of our exportations.

In taking off 55 millions of specie, in gold and silver the real importations into France were, in 1789, only 345 millions; the exporta-

tions were 357 millions; which is a commerce of about 860 millions, whether viewed as real or passive. It was not one fifteenth part of our internal commerce.

Let us compare our external commerce at that period, with what it is at this day: I shall consider our colonies as forming part of France, and their commerce with her as internal.

In 1788, the exportations amounted to 365 millions, the importations at 345 millions, 55 millions of which being in specie, reduced them to 290 millions; the exportations then exceeded the importations 75 millions.

We have just seen that in 1789, the importations being more considerable than in 1788, the exportations exceeded only 12 millions.

In 1810, the exportations amounted to 376 millions the importations were 384 millions, from which must be taken 18 millions of specie in gold and silver. The importations, reduced to 366 millions, left 40 millions in favor of the exports.

In 1811, our exportations amounted to 328 millions; our importations, exclusive of 146 millions in specie to 298 millions. The exportations exceeded the importations 30 millions.

In 1812, the sum of exportations amounted to 383 millions; that of the importations to 257, exclusive of 93 millions specie. The exportations exceeded 126 millions. In the same year, the exportation of the products of our soil exceeded the greatest sums which they had produced at any former period. The importations, on the contrary were always on a decline---they are less this day than prior to 1790.

The balance of commerce, which in 1788, the epoch the most favourable, was but 75 millions over our importations, is this day 126.

The importations in specie during the three years preceding the revolution after a deduction from the exportations were 65,000,000; those of the last three years, are, 110,000,000.

In the ancient sum of our exportations, was comprised a value of 168 millions, proceeding in part from the products of our colonies, which we placed at the disposal of foreigners. It appears that this revenue is this day replaced by an equivalent from the products of our continental soil, as well as from our industry; but in considering our colonies as integral parts of the kingdom in 1789 we did not include in the exportations the 93 millions which we gave them at that epoch in products of our European soil; it is then in reality, but the 75 millions that form the difference of these two sums, which we had to give over to other states, as a compensation only for what we formerly furnished them in colonial produce.

In the sum of actual importations, I find the whole value of the colonial produce, which we now obtain from foreigners, and which was formerly furnished us by our colonies.—It seems then, that the importations should instead of diminishing, have augmented at least to the value of those products. We admitted 232 millions, emitted to foreigners 168 millions; there remained then for us 64 millions.

If we recur to our ancient situation with the countries which have since been united to France, we will find that these states received from us the amount of 146 millions, and that we received from them only to the amount of 70 millions.

It appears then, that in our ancient balances, there were 76 millions in favor of the exports; and their union, in forming a relation

with part of our internal commerce, should seem, in considering only their relations with France, to have considerably reduced our present exports and the balances in favor of those exportations, which have, on the contrary, been ameliorated each year.

In endeavoring to find the causes of the increase of our continental commerce, we behold an administration, watchful and enlightened, incessantly occupied in superintending the situation of our various branches of industry ; in regulating the tariffs of the duties of imports and exports, and observing a system of custom which, in effect, guards our frontiers, and tends to preserve the high standing of our manufactories ; whilst it maintains that primary importance afforded it by the consumption of an empire with a population of 42 millions of inhabitants ; and is, besides, enabled to supply foreign markets.

The laws being mild, plain and uniform, prevent altercation ; and render the transaction of business sure and easy ; commerce finds every where the same liberty and protection ; the roads are good ; and the numerous canals tend greatly to facilitate the transportation of goods. From Spain to Holland and Hamburg, from the Rhone to Brest, the largest carriages travel freely ; Amsterdam and Marseilles have communication with each other by the canals of Saint Quentin and of the centre. The navigation of our large rivers has been brought to perfection.

The number of criminal cases are reduced to less than civil ones. In 1801, the population was 34 millions of individuals : that year produced 8500 criminal cases, in which there were implicated 12,400 persons. In 1811, a population of 42 millions offered but 6000 criminal cases, in which were implicated 8600 persons. In 1801, 8000 were sentenced ; in 1811, 5500 ; in 1801, there were 882 sentenced to death ; in 1811, only 392. This reduction progressed gradually each year ; and, if it were necessary to give further proof of the influence of our laws and of our prosperity, in the maintenance of public tranquillity, we would observe that this gradual reduction has chiefly occurred in those countries which have been united to the empire, and that crimes become still fewer, as the incorporation of those states become older.

The revenue of the commonalties and cities comprising Paris, amount to 128,000,000. The tolls produce 65,300,000 ; the additional times, and divers collections, 42,700,000 ; the revenues arising from manors, 20,000,000—total, 128,000,000.

#### PUBLIC INSTRUCTION.

In 1809, the number of pupils in the literary academies was but 9500, 2700 of whom were day scholars, and 6700 boarding scholars ; at present, the number of pupils is 18,000, 10,000 of whom are day scholars, and, 8000 boarders.

Five hundred and ten colleges afford instruction to 50,000 pupils, 12,000 of whom are boarders.

One thousand eight hundred and seventy-seven boarding houses, or private institutions, contain 47,000 pupils.

Thirty one thousand primary schools give classical tuition to 920,000 youths. Thus it is, that 1,000,000 of young Frenchmen enjoy the benefit of public instruction.

The university forms distinct subjects in the sciences and belles lettres, as well as in the manner of their being taught. They bring yearly to the lyceums good translations and perfect methodical plans.



The 35 academies of the university 9000 auditors, two thirds of whose pupils are students in medicine.

The polytechnique schools give yearly, to the special schools of genius, of artillery, of bridges, elevations, and mines, 15 youths, commendable for their knowledge and ingenuity.

The schools of St. Cyr, St. Germain, and La Fleche, furnish yearly 1500 youths for a military career.

The number of pupils in the *veterinaire* (farrier) schools is doubled. The interests of agriculture have dictated as a better organization of this species of schools.

The academy of Della Crusca of Florence, a depository of the purest Italian language; the institute of Amsterdam; and the academy of St. Luke, at Rome; have all received new regulations, as well as sufficient donations.

The works of the institute of France continue; one third of its dictionary is completed, and the whole may be accomplished in two years. The researches made into our language and into our history, occupy a number of its members.

The possession of Holland and of l'Escaut; the extension of our power on the coasts of the Adriatic, in the ports of Genoa and Spezzia, and on the Rhine and Meuse, have afforded us maritime means of much greater importance than those possessed by the ancient monarchy. We can now build fleets without being hindered by a superior hostile force, and without any additional expence.

The good administration of the finances of the empire has placed us in a state to meet the expences produced by the establishment of an extensive navy, and to defray the expences of continental wars. Finally, the energy our government, and its undeviating firmness, were alone capable of surmounting greater obstacles.

In a few years we shall have 150 ships of the line, 12 of which, will be three deckers, besides a vast number of frigates.

The French navy, in the most prosperous times, never had more than five three-deckers. We can easily build and arm from 15 to 20 large ships every year.

The institutions of Colbert and the principles laid down by him, for recruiting the navy, were almost null; our maritime commerce was extremely reduced. This maxim was admitted as an axiom. *No commerce—no navy.* This was, however, a vicious logic; for it could with equal propriety be said, *No navy, no commerce.*

The administration then conceived the project of recruiting for the navy in the same manner as for the army, by having recourse to the conscription.

The maritime departments were, in part exempted from the conscript for the army; and all their youths were called to the maritime conscription.

The most experienced seamen wanted this conscription to be composed of boys from 10 to 12 years of age, and argued that it was impossible to make a seaman of a person who had reached the age of manhood. But how was it possible to intice on board ships of war 60 or 80 thousand children? The expences attending their instruction for ten years, and their personal maintenance, was a frightful idea.

It is now five years since this system has been adopted, during which time 80,000 young men, drawn by the conscription, have been added to the maritime population. It required a great deal of con-

stancy and perseverance to resolve upon all the sacrifices which such a system has cost us.

In fine, of our 100 ships of the line, we have at present 65 armed equipped and six months provisions on board, which are constantly ready to depart, and which every day go through the evolutions of weighing anchor, setting sail, &c. so that no one on board, excepting the proper officers, know really whether they are going to sea, or merely exercising.

The maritime conscriptions produce yearly 20,000 young men. The regulations relating to the fishermen, are also productive of important resources.

The marines on board the ships of the line were taken from the army. A part of the guns on board those ships were worked by the imperial corps of naval gunners.

Our army is composed of the imperial guard, comprehending 20 regiments of infantry and 44 squadrons ; of 151 regiments of regulars and 37 of light infantry, making 189 regiments of infantry, or 915 French battalions ; of 15 regiments independent of four Swiss regiments, six foreign regiments, and several colonial battalions."

### *INTERNAL STATE OF FRANCE.*

PARIS, JULY 13, 1814.

#### CHAMBER OF DEPUTIES.

The Abbe de Montesquieu, Count Dessolles, and M. Ferrand. Ministers of State, having been introduced, the following Expose of the State in which his Majesty found the kingdom was laid before the Chamber.

#### MINISTRY OF THE INTERIOR.

"Agriculture has made real progress in France ; this progress commenced long before the revolution—since that epoch, new causes have accelerated its march and these causes would have produced effects still more important, if destructive events had not diminished their influence. The propagation of good modes of agriculture by learned societies, the residence of a number of rich proprietors in the country, their experiments, their instructions, and examples, the erection of veterinary schools, produced the most happy effects in many branches of rural economy ; but the errors and the faults of Government opposed continual obstacles to their development.

The Continental system caused enormous losses to the proprietors of vineyards ; in the south of France many vineyards have been rooted up, and the low price of wines and brandies discouraged this branch of culture generally.

The mines in France have very sensibly increased. Our territory now presents 478 mines of every different kind now working, which employ 17,000 workmen and produce to France a raw material to the value of 26,800,000 francs, and the state a revenue of 251,000 francs—This revenue was appropriated to the payment of the administration of the mines. But this particular fund, which, on the 1st of January last, amounted to 700,000 francs, was employed by the government in defraying the expences of the war. Yet in the midst of these continual vexations, this changeable and tyrannical legislation, our

fields have been cultivated, our mines worked, and our flocks even preserved and ameliorated. Certainly nothing more evidently proves the industry of our nation, and its happy disposition for the first of all the arts, than the progress of its agriculture under an oppressive government. The labourer was torn from the soil by the conscription, his little gains were devoted to purchase substitutes, the produce of his labours was the subject of endless requisition; but such is the superiority of our soil, and the industry of our cultivators, that agriculture will arise from its ruins, and become more prosperous than ever under the paternal government which will terminate its calamities.

Manufacturing industry has much need to recover the same liberty. Mechanics and chemistry, enriched by numerous discoveries, and skilfully applied to the arts, had enabled it to make rapid progress; the continental system by compelling manufacturers to search, on our own territory, for resources previously unknown, produced some useful results; but the obstacles which it opposed to the introduction of a great number of raw materials, and the want of competition which it occasioned, have raised beyond measure the price of most of the articles of French manufacture, and thus perniciously affected both the rights and interests of the consumers. Some of the obstacles have already been removed; reasonable laws with regard to importation and export, will henceforward conciliate the interests of the consumers and those of the manufacturers; interests which are never conflicting but when the claims on either side are exaggerated.

Our cotton manufactures are stated to employ 400,000 persons, and a capital of 100 millions. Those of Rouen have already considerably revived. The linen manufactures of Laval and Bretagne suffered much by the war with Spain, where they found their principal market. Those of silk experienced the same fate. Their produce also passed through Spain to America and the colonies; but that channel was soon closed; Italy alone remained for them. It is true that our own internal consumption of silks increased, but what may we not hope to gain by the renewal of our communications with all Europe?

In 1787 the manufactures at Lyons kept at work 15,000 looms; during the late war that number was reduced to 8000; but Lyons has already received considerable orders, and promises to regain its former prosperity. The manufactures of woollens, leather, &c. suffered in an equal degree from the fatal influence of the continental system, the absurdity of which they strikingly evinced.

### COMMERCE.

Prohibitive laws did still more mischief to commerce than to manufacturing industry; if the difficulty of external communications narrowed the market of our manufacturers, in that at least which remained open to them, they had nothing to fear from the competition of foreign articles; and though this might injure the interest of the consumers, at least a certain class of citizens seemed to profit by it.

But commerce requires a more extensive and unimpeded field. Reduced to narrow and slightly gainful speculation whenever it attempted to enlarge them, it found itself the slave of the uncertainties of a government which wished to subject it to its caprices and calculations. The system of licences ruined and discouraged a great number of merchants, by raising hopes which were destroyed in a mo-

ment by the will which had fostered them. Speculations necessarily hazardous, require that the stability of laws should aid the prudence of men ; but that abrupt and perpetual change from the system of licences to a system absolutely prohibitive caused immense losses to commerce. What tranquillity also could the merchants enjoy, who saw in the government a rival as greedy, as powerful, and always determined to reserve for itself the exclusive cultivation of a field which it interdicted to them ? A long peace and stable and liberal laws can alone inspire mercantile men with sufficient confidence to embark without apprehension in their useful pursuits.

If we pass to the objects depending on the Ministry of the Interior, and immediately subject to the government, their situation will appear still more deplorable.

#### GENERAL ADMINISTRATION OF THE INTERIOR.

The Budget of the Ministry of the Interior, that is, the mass of all the funds appropriated to the different services of that department, amounted—

|         |    |              |
|---------|----|--------------|
| In 1811 | to | 143 millions |
| In 1812 | to | 150 millions |
| In 1813 | to | 140 millions |

The public Treasury never contributed to this mass of funds more than 58, 59 or 60 millions.—The remainder arose from special duties and imports.

[Here the report states, that additional centimes on the general contribution were imposed for roads, prisons, canals, barracks, administration expences, tribunals, buildings, public worship, depots of mendicity, &c. Thus the departments paid at an average 45 centimes additional per franc, some 62, and others 72. But even these were not regularly given out by the treasury for public works, &c. Hence in the two years 1812 and 13, sixty millions were taken from the administration expences, and the provinces, impoverished by additional imposts, enjoyed only a small part of those establishments, constructions, or other public works of utility, the hope of which had at least alleviated the weight of their sacrifices.

The report next proceeds to give a variety of details on the subject of the administration of Communes, and of Hospitals. The Communes had been successively charged with expences which should have been borne by the general funds of the State, or by the departmental funds ; of this kind were the salaries of commissaries of police, military buildings and beds ; depots of mendicity, prisons, &c. Hence the scale of communal actois had vexatiously increased—the medium charge per head on every inhabitant was about 7 francs 24 cents, and in some cities it even amounted to 17 francs 35 cents.

On the subject of hospitals, it is mentioned that a decree of the 19th of January, 1811, allowed only four millions for the expences of founding hospitals throughout the kingdom, though that expence now amounted annually to nine millions.—The War Department owes at present to the hospital at Paris, for sick and wounded soldiers alone, the sum of 1,393,365 francs. The medicines were besides exhausted ; the reserve stores of lint, furnishings, &c. were either wasted or lost ; the amount of these losses could not be calculated, but might be estimated at several millions.

## PUBLIC WORKS.

Great enterprises had been undertaken ; some from motives of real utility, many from ostentation or from views in which the happiness of France had no share. While magnificent roads were opened on our frontiers, those of the interior were neglected ; and the cross roads abandoned by the communes who had no funds to support them were very much deteriorated.—The sum of 15,500,000 francs voted by the departments for the roads, had been misappropriated. There was an arrear of 28 millions in the department of bridges and causeways ; and yet this service would be charged with all the extraordinary expences occasioned by the disasters of the last campaign ; thirty principal bridges had been blown up or burnt ;—provisional repairs in wood alone would cost 1,800,000 francs. The extent of the mischief was not yet known.

The canals are in a better state, but the works far from being finished. That of Burgundy, which has already cost 12 millions, will require five more ; and that of the Ourcq undertaken on too expensive a scale, will yet want at least 18 millions. The canal of Burgundy, as well as that of St. Quentin, deserve praise.

The works at Paris were a particular object of the cares of Government, because in them it found the means of parading a great magnificence, and of rendering itself popular. Some of them particularly those of the public markets, will be truly useful. The works for embellishment of the capital, though of a less useful description, will not be abandoned—the expence of them is estimated at 58,500,000 francs, and more than 24 millions have already been laid out on them. All these objects fall under the superintendence of the Minister of the interior, the arrears of whose department are not yet ascertained, but are computed at from 40 to 50 millions.

## WAR MINISTRY.

With regard to the expenditure of this department, we can only present an approximation. Here was the root of the evil—hence originated the disorder which extended to all the other branches—and the disasters of the three last campaigns have plunged this department already so complicated, into a complete chaos.

On the 1st of May last, the land forces of France amounted to more than 520,000 men, including gendarmerie, veterans, invalids, and cannoniers, guarding the coasts. Besides this force, there are 122,597 military of all ranks enjoying half pay. One hundred and sixty thousand prisoners are returning to us from Prussia, Austria, England, and Russia. The Staff of the army, including engineers, inspectors, commissaries, &c. amounts to 1,874 individuals.

The pay, &c. of men in active service for 1814, amounts to

|                  |             |
|------------------|-------------|
|                  | 202,000,000 |
| Half-pay, &c. to | 34,000,000  |

|        |             |
|--------|-------------|
| Total, | 236,000,000 |
|--------|-------------|

The war of 1812 and 1813 destroyed in artillery and ammunition, a capital of 250 millions—and the fortified places in the countries ceded by France, had since 1804, cost her 115 millions.—The Budget of the War Ministry, properly so called, had been fixed under all heads, for 1814, at 360 millions. But in consequence of a division which had ex-

isted some years, there was, besides the department of the Ministry at War, that of the war administration. The expences of this last were in 1812, 238,000,000 francs—in 1813, 374,000,000—and in 1814 they will be 380,000,000—which last sum will, for 1814, occasion a total expence, in these two branches, of 740 millions.

The arrear also of these two branches is enormous—that of the ministry at war amounts, according to present statements, to 104,000,000—and that of the war administration to 157,000,000 making a total arrear of 261 millions.

But these statements are not yet complete—the arrears of the armies, during the years 1811, 12, 13, and 14, are still unknown. Neither do they include a sum of 100 millions, *ordonnanced* by the two ministries, which they no longer reckon their debt, but which the Treasury has not been able to pay. We must add also, to the expences occasioned by the war, the requisitions of which we have already spoken, the expence of the guards of honor, and of the offers of mounted and equipped horsemen. The expence of the two latter heads, for the departments of old France, may be estimated at 15,611,000 francs.

### MINISTRY OF THE MARINE.

The navy has during twenty-four years been weakened, by the very means which have been taken to give it the appearance of strength. To make on all our coasts the display of a factitious power, to appear to meditate gigantic projects while the means of accomplishing them were insufficient, even through their exaggeration to look on our seamen as recruits for the armies, was the system of the government—a system which has led to the annihilation of the population of our coasts, and the complete exhaustion of our arsenals. The remonstrances of the most enlightened men, and of the most experienced mariners, and the evidence of facts, were incapable of checking those foolish enterprises, those violent measures which belonged to a plan of dominion oppressive in all its parts. Thus in eighteen hundred and four the projected invasion of England was pompously announced.—Ports which had never yet been entered, except by fishing boats and packets, were immediately converted into vast maritime arsenals—immense works were commenced on a beach, which the winds and tides were incessantly covering with sand—forts, batteries, magazines, workshops were erected—thousands of ships were built and bought up on all the coasts of the ocean, and in the interior of the rivers, without considering how they should get to the place of rendezvous—Paris itself saw a dock yard formed within its walls—and the most valuable materials were employed in the construction of these vessels, which were not even fit for their destination. And what now remains of all these armaments. The wreck of some of the vessels, and accounts will prove, that for the successive creation and destruction of this monstrous and useless flotilla upwards of 150 millions have been sacrificed since 1803. All that could be done by the talents of the engineers and the preservance of the sailors, was done on the Scheldt. A numerous squadron manœuvred safely in this river, which was thought inaccessible to large ships of war—but this success would not satisfy the pride of power.

The sides of the Scheldt were immediately covered with dock-yards, which all the neighbouring forests would not have supplied, if the building had been carried on with the activity with which it began. It was in vain represented that the severe winter would change the position of the sand banks, and make the river impassable to ships of the first class—that at the approach of the ice the crews would be shut in the basins, where all that the most skilful officers could teach them in the summer would be forgotten. Nothing was listened to, and the treasure of France was lavished on that subject which it was impossible to accomplish. It is known by experience, that the use of stores is most economical where vessels of all sizes are built in one place—yet under pretence of giving employ to naval artificers, and of working the wood on the spot where it was procured, ships were built in ports without any roads or safe anchorage, exposed during the winter to danger from the floats of ice, or having bars which could not be passed without difficulty and danger—from these ill-judged prospects, the expense of the superintending officers was necessarily increased. The great works at Cherbourg and the fine squadron at Toulon, are the only good results from a system, in which besides there was nothing but weakness and improvidence. All our arsenals are completely delapidated—the immense naval stores collected by Louis XVI, are squandered—and during the last fifteen years France has lost, in ill-judged expeditions, 43 ships of the line, 82 frigates, 76 corvetts, and 62 transports and packets, which could not be replaced at an expense of 200 millions. The port of Brest, the finest and best in Europe, and where there were vast and magnificent establishments, has been entirely neglected. Not only are the arsenals exhausted and unprovided with stores, but the ships are still more unprovided with good sailors. The loss of our colonies, the measures which oppressed commerce, the reverses experienced by our fleets, and the vexations exercised on our fisheries, would of themselves sufficed to extinguish our maritime population, but the measure by which the last government gave the crews of ships the organisation of regiments, pronounced the sentence of its absolute destruction. Many of these bodies supported in the plains of Germany and in the mountains of the Asturias the lustre of the French arms, but they lost in the field the habits of the sea. Though the desire of glory might reconcile the officers to it, this method of life was most repugnant to the habits and taste of the sailors, and above all, tended to keep them in celibacy most destructive to the maritime force of the kingdom. It is therefore, absolutely necessary to put an end to this system. The total debt of the marine is 51,500,000 francs.

#### MINISTRY OF FINANCE.

The expose of this department is an explanation of the situation of the other ministries. Before we give the general results, we shall explain by what means the old government contrived to hide them. The old system bears at first the appearance of order and exactness. Before the commencement of each year, the ministers of finance collected the demands of the other ministers for the expenses of the year, to form his budget of expenses. On the other hand, from the state of the produce of the taxes, he formed the budget of receipts. These two tables being balanced against one another, composed the general

budget of the state, and seemed to promise, that by realising all the revenues, all the expenses might be provided for. But this equilibrium was fictitious, both budgets being distorted by inexactness and falsehood. The funds which were termed special, amounting to above 100 millions of francs yearly, were not put in the budget, and many extraordinary expenses were not placed under the head of any ministry. The expense of the war was estimated much below its real amount.—One conscription or more was raised in the course of the year, equipments, stores or works were ordered, without a proportional augmentation in the supplies. The receipts became thus insufficient, and considerable arrears were created.

The estimated produce of the taxes, as stated in the budget, was for the most part eventual or exaggerated. Thus the budgets of 1812 and 1813, present a deficit of 312,032,000 francs.

The head of the government was not ignorant of these deficits, but he was always in the hope of covering it either by those foreign tributes, which were the fruits of his first campaigns, or by drawing from the resources of the special Fund, in the Domaines Extraordinaires, in the Caisse d'Amortissement, in the Caisse de Service, &c. Thus is it that all the funds not destined to the service of the war, have been, in fact, employed in it. Hence proceeds that arrear in the finances, which we shall proceed to detail.

|  |                 |
|--|-----------------|
| 1. There has been taken from the Special funds and employed in the service of the Budget | 53,580,000 fr.  |
| 2. There has been anticipated in the Caisses du Domaine et de la Garonne                 | 237,530,000 fr. |
| 3. The Caisse de Service has advanced and consumed                                       | 162,014,000 fr. |
| 4. There has been abstracted from the Caisse d'Amortissement                             | 275,825,000 fr. |

5. Add to these sums the arrears existing in the expences, at the particular charge of the ministry of finance, since the payment had been delayed or refused only because their funds had been otherwise employed. This arrear, comprising twelve millions of francs of half pay, due and not paid, amounts to

77,500,000 fr.

Thus the total of anticipations and misapplication of funds by the old government, amounts to

805,462,000 fr.

If we add to this sum the arrears of the different ministries which are not yet exactly known, but which may be taken at 500,000,000 fr. the sum total of anticipations and arrears is 1,305,469,000 francs.

This calculation is doubtless terrifying, but we must not look on the evil as irremediable.—The minister of finances, will explain to you what are the sums immediately requisite, those to be required at distant periods, and those which resolve themselves into a change of interest only.

For us, called on simply to present you the expose of the present situation of the kingdom, we have confined ourselves to this painful task, we have dissembled nothing. The details will show at once the evil and its remedy. You will see the force of life always active, which has supported France amidst all its losses, you will see the resources which have struggled against disasters, ever springing up anew, and you will wonder to behold so fertile, and so well cultivated,



these fields which have so long been exposed to all kinds of devastation. Though terrified by the debt of the government, you will see in the hands of individuals, capitals ready for useful undertakings, and far from despairing of the prosperity of France, you will see from what she has supported in calamity, the flourishing state to be expected under a beneficial Government.

Unhappily we cannot also restore at once to France those moral habits, and that public spirit, which cruel misfortunes and long oppression have there almost annihilated! Noble sentiments were opposed, generous ideas were stifled, the government, not content with condemning to inaction the virtues which it dreaded, excited and fomented the passions which could do it service—to suppress public spirit, it called personal interests to its aid—it offered its favours to ambition, in order to silence conscience—it left no other state but that of serving it, no other hope but those which it could alone fulfil—no ambition appeared indiscreet, no pretension exaggerated—hence that incessant agitation of all interests and of all wishes—hence, that instability of situation which left hardly any man the virtues of his condition, because all thought only of emerging from it—hence, in fine, incessant attacks upon every kind of probity, by seductions against which the most generous characters could hardly defend themselves.

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## TREATY OF PEACE.

**ART. 1.** There shall be, from this day henceforth, peace and amity between his majesty the king of France and Navarre, on the one part, and his majesty the emperor of Austria, king of Hungary and Bohemia, and his allies, on the other part, their heirs and successors, their states and respective subjects forever. The high contracting parties will employ all their care to maintain, not only between themselves, but also, as far as depends on them, among all the states of Europe, the harmony and good understanding so necessary to their repose.

**ART. 2.** The kingdom of France preserves the integrity of its limits, such as they were at the epoch of the first of January, 1792. It shall receive, besides, an augmentation of territory, comprised in the line of demarkation fixed by the following article:

**ART. 3.** On the side of Belgium, Germany, and Italy, the ancient frontier, as it existed the 1st of January, 1792, shall be re-established, commencing at the North Sea, between Dunkirk and Newport; thence to the Mediterranean, between Cagnes and Nice, with the following rectifications:—

1st. In the department of Jemmapes, the cantons of Dour, Merbes-le-Chateau, Baumont and Chimay, shall remain to France;—the line of demarkation shall pass where it touches the canton of Dour, between that canton, and those of Boussu and Paturage, as well as further on between that of Merbes le Chateau, and those of Binch, and of Thuin.

2dly. In the department of the Sambre and Meuse, the cantons of Valcourt, Florennea, Beauring, and Gedinne, shall belong to France; the demarkation, where it reaches this department, shall follow the line which separates the beforementioned cantons from the department of Jemmapes, and the rest of that of Sambre and Meuse.

3dly. In the department of the Moselle, the new demarkation, where it departs from the ancient, shall be formed by a line drawn from Perle to Fremersdorf, and by that which separates the canton of Tholey from the rest of the department of the Moselle.

4thly. In the department of the Sarre, the cantons of Sarbroek and of Arneval, shall remain to France, as well as the part of that of Lebach, which is situated to the south of a line drawn along the confines of the villages of Herchenbach, Ueberhofen, Hilsbach, and Hall, (leaving these different places out of the French frontier) to the point where, taken from Querselle, (which belongs to France) the line which separates the cantons of Arneval and of Ottweiler, reaches that which separates those of Arneval and Lebach; the frontier on this side shall be formed by the line above designated, and afterwards by that which separates the canton of Arneval from that of Bliescastel.

5thly. The fortress of Landau, having formed before the year 1792, an isolated point in Germany, France preserves beyond its frontiers a part of the department of Mount Tonnerre, and of the Lower Rhine, to join the fortress of Landau and its circle to the rest of the kingdom. The new demarkation, departing from the point where near to Obersteinbach (which remains out of the limits of France) the frontier between the department of the Moselle and that of Mount Tonnerre, reaches the department of the Lower Rhine, shall follow the line which separates the cantons of Weissenburg and Bargzbern (on the side of France) from the cantons of Promasen, Dahn, and Anweiler (on the side of Germany,) to the point where these limits, near the village of Wolmersheim, touch the ancient circuit of the fortress of Landau. From this circuit, which remains as it was in 1792, the new frontier shall follow the arm of the river Queich, which in quitting this circuit, near to Queichheim (which remains to France) passes near the villages of Merlerheim, Knitte-laheim and Belheim (also remaining French) to the Rhine, which shall continue henceforth to form the limit between France and Germany.

As to the Rhine, the Talveg shall constitute the limit, in such a manner, however, that the changes which the course of that may hereafter sustain, shall have in future no effect upon the property of the islands contained in it. The state of possession of these isles shall be re-established as it existed at the epoch of the signature of the treaty of Luneville.

6thly. In the department of Doubs, the frontier shall be rectified in such manner that it shall commence beyond the Ranconniere, near to Locle, and follow the summit of the Jura between the Cerneaux Pequignot and the village of Fontenelles, to a height of the Jura, situated about 7 or 8000 feet to the north-west of the village of Brevinne, where it shall re-enter into the ancient boundary of France.

7thly. In the department of the Leman, the frontiers between the French territory, the country of Vaud and the different portions of the territory of the republic of Geneva (which shall form a part of Switzerland) remain the same as they were before the incorporation

of Geneva with France. But the canton of Frangy, that of St. Julien (excepting that part situated to the north of the line drawn from the point where the river Loire enters near to Chancy into the Genevese territory along the confines of Seseguin, Lacoux and Seseneuve, which shall remain out of the limits of France,) the canton of Ragner (with the exception of the portion which lies to the east of a line which follows the confines of Muraz Bussy, Pers and Cornier, which shall be out of the French limits) and the canton of La Roche (excepting the places called La Roche and Armanoy with their districts) shall remain to France. The frontiers shall follow the limits of these different cantons, and the lines which separate the portions which remain to France from those which she does not preserve.

8thly. In the department of Mont Blanc, France acquires the sub-prefecture of Chambery (excepting the cantons of L'Hospital, of Saint Peter D'Albigny, of La Rocette, and of Montmelian;) and the sub-prefecture of Annecy (excepting that part of the canton of Faverges, situated to the east of a line which passes between Ourchase and Marleno is on the side of France, and Marthod and Augina on the opposite side, and which runs from the summit of the mountains to the frontier of the canton of Thones;) it is this line which, with the limit of the cantons mentioned, shall form on this side the new frontier. On the side of the Pyrenees, the frontiers remain as they were between the two kingdoms of France and Spain at the epoch of the first of January, 1792, and there shall be hereafter named a joint commission on the part of the two crowns, to fix the final demarkation.

France renounces all rights of sovereignty, jurisdiction and possession over all the countries and districts, cities and places, whatsoever, situated beyond the frontier above designated, the principality of Monaco being, however, restored to the condition in which it was before the first January, 1792.

The allied courts assure to France the possession of the principality of Avignon, of the country of Venaissin, of the county of Montbeliard, and of all the territories belonging formerly to Germany, comprised within the frontier above marked out, which have been incorporated into France before or since the first January, 1792.

The allied powers reserve to themselves reciprocally the entire liberty of fortifying such point of their states as they may judge convenient for their safety.

To avoid all injury of private property, and to protect upon the most liberal principles, the possessions of individuals domiciliated upon the frontiers, there shall be named, by each of the states bordering on France, commissioners to proceed, jointly with French commissioners, to the delimitation of the respective countries.

As soon as the business of the commissioners shall be finished, there shall be prepared plans signed by the respective commissioners and posts shall be placed which shall mark out the reciprocal limits.

ART. 4. To assure the communication of the city of Geneva, with other parts of the Swiss territory, situated upon the lake, France consents that the use of the route by Versoy shall be common to the two countries. The respective governments shall come to a friendly understanding as to the means of regulating the course of the posts, and the maintenance of the road.

ART. 5. The navigation upon the Rhine, from the point where it becomes navigable to the sea, and vice versa, shall be free in

such a manner that it may not be interdicted by any one, and it shall be the business of the future congress to determine the principles according to which duties may be levied upon the states bounding upon the river, in a manner the most equal, and most favorable to the commerce of all the nations.

It shall also be examined and decided in the future congress, in what manner, to facilitate the communications between the two countries, and to render them always less strangers to one another, the foregoing dispositions may be equally extended to all the other navigable rivers, which separate or traverse different states.

ART. 6. Holland, placed under the sovereignty of the house of Orange, shall receive an increase of territory. The title and exercise of the sovereignty of that country shall not in any case belong to any prince wearing or called to wear a foreign crown.

The states of Germany shall be independent, and united by a federative league.

Switzerland independent shall continue to govern itself.

Italy, out of the limits of those countries which will return to Austria, shall be composed of sovereign states.

ART. 7. The Isle of Malta, and its dependencies, shall belong in full possession and sovereignty to his Britannic majesty.

ART. 8. His Britannic majesty, stipulating for himself and his allies, engages to restore to his most christian majesty, in the periods which shall hereafter be fixed upon, the colonies, fisheries, factories, and establishments of every kind, which France possessed the first of January, 1792, in the seas, and on the continents of America, Africa, and Asia, excepting the islands of Tobago and St. Lucia, and the Isle of France and its dependencies, namely Rodrigue and the Seychelles, which his most christian majesty cedes in full property and sovereignty to his Britannic majesty, as also that part of St. Domingo ceded to France by the peace of Basle, and which his most christian majesty recedes to his catholic majesty, in full property and sovereignty.

ART. 9. His majesty the king of Sweden and Norway, agreeably to the arrangements made with his allies, and for the execution of the preceding article, consents that the island of Guadaloupe shall be restored to his most christian majesty, and cedes all rights which he might have over this island.

ART. 10. His most faithful majesty (Portugal) agreeably to arrangements made with his allies, and for the execution of article 8th, engages to restore to his most christian majesty, within the period hereafter to be fixed, French Guyana, as it was the first January, 1792.

The effect of the above stipulation, being to revive the dispute existing at this epoch on the subject of the boundaries, it is agreed that this dispute shall be terminated by an amicable arrangement between the two courts, under the mediation of his Britannic majesty.

ART. 11. The places and fortresses existing in the colonies and establishments which are to be restored to his most christian majesty in virtue of the articles 8, 9, and 10, shall be restored in the condition in which they are at the moment of the signature of the present treaty.

ART. 12. His Britannic majesty engages to allow the subjects of his most christian majesty in respect to commerce and to the safety of their persons and property within the limits of the British sovereignty, upon the continent of India, the same facilities, privileges,

and protection, which now are, or which shall be granted to the most favoured nations. On his side, his most christian majesty having nothing more at heart than the perpetuity of the peace between the two crowns of France and England, and wishing to contribute as far as is in his power to removing at present for the relations of the two powers, whatever might one day disturb their mutual good understanding, engages to make no fortified works in the establishments which are to be restored to him, and which are situated within the limits of the British sovereignty upon the continent of the Indies, and to keep in these establishments only the number of troops necessary for the maintenance of the police.

ART. 13. As to the right of France to fish upon the Grand Bank of Newfoundland, upon the coasts of the island of that name, and the adjacent islands, and in the Gulph of St. Lawrence, every thing shall be replaced upon the same footing as in 1792.

ART. 14. The colonies, factories, and establishments, which are to be restored to his most christian majesty by his Britannic majesty or his allies, shall be restored as follows:—Those which are in the north seas, or in the seas and upon the continents of America and Africa, within three months, and those which are beyond the Cape of Good Hope within six months from the ratification of the present treaty.

ART. 15. The high contracting parties having reserved to themselves by article 4th of the convention of the 23d of April last, to regulate in the definitive treaty of peace, the fate of the arsenals and vessels of war, armed and not armed, which are within the maritime places restored by France in execution of the second article of the said convention, it is agreed that the said ships and vessels of war, armed and not armed, as also the naval artillery and ammunition, and all materials of building and armament, shall be divided between France and the countries in which the places are situated, in the proportion of two-thirds for France, and of one-third for the powers to which the said places shall belong.

Ships and vessels building, which shall not be in condition to be put to sea in six weeks after the signature of the present treaty, shall be considered as materials, and after being demolished, shall be divided as such in the proportion above declared.

Commissioners shall be named on either side to agree on the division, and to prepare an account; and passports and safe conducts shall be given by the allied powers to secure the return of the French workmen, seamen, and laborers into France.

In the above stipulations shall not be comprised either vessels and arsenals being in the maritime places which shall have fallen into the power of the allies before the 23d of April, nor the vessels and arsenals which belonged to Holland, and especially the fleet of the Texel.

The government of France obligates itself to withdraw or sell all that shall belong to it by the stipulations above expressed, in the space of three months after the division shall have been effected.

Henceforth the port of Anvers shall be solely a commercial port.

ART. 16. The high contracting parties, wishing to cover with entire oblivion the divisions which have agitated Europe, declare and promise, that in the countries restored and ceded by the present treaty, no individual of whatever class or condition he may be, shall be prosecuted, disturbed or troubled in person or property, under any

pretext, on account of his political conduct or opinions, or his attachment whether to either of the contracting parties, or to the governments which have ceased to exist, or for any other occasion, except for debts contracted with individuals, or for acts posterior to the present treaty.

ART. 17. In all the countries which shall change masters, either in virtue of the present treaty, or of any succeeding arrangements, there shall be granted to the inhabitants, native and foreign, of whatever condition and nation they may be, a space of six years, counting from the exchange of ratifications, to dispose, if they shall think it expedient, of their property acquired either before the war, or during its actual continuance, and to retire into whatever country they shall choose.

ART. 18. The allied powers wishing to give to his most christian majesty a new testimony of their desire to do away, as far as in them lies, the consequences of that epoch of misery so happily terminated by the present peace, renounce in the whole such sums as the government may claim of France on account of all contracts, supplies or advances, whatsoever, made to the French government in the different wars which have taken place since 1792.

On his part, his most christian majesty renounces all claim which he might form against the allied powers upon the same foundations. In execution of this article, the high contracting parties engage to deliver to each other all securities, obligations, and documents, which relate to the claims they have reciprocally relinquished.

ART. 19. The French government engages to cause to be liquidated and paid all such other sums as shall be found due in countries out of its territory, in virtue of contracts, or other formal engagements heretofore made, between individuals or private establishments, and the French authorities, as well for supplies, as in virtue of legal obligations.

ART. 20. The high contracting powers shall appoint, immediately after the exchange of ratifications of the present treaty, commissioners to regulate and superintend the execution of all the provisions contained in the 18th and 19th articles. These commissioners shall attend to the examination of the claims mentioned in the preceding article, the liquidation of the sums claimed, and the mode in which the French government shall propose to discharge them. They shall also be charged with the delivery of the securities, obligations, and documents, relative to the claim, which the high contracting parties mutually relinquish, so that the ratification of the result of their labor shall complete this reciprocal renunciation.

ART. 21. Debts specially charged in their origin upon the countries which cease to belong to France, or contracted for their interior administration, shall remain a charge upon these same countries. Consequently such of those debts as since the 23d day of December, 1813, have been converted into inscription in the great book of the public debt of France, shall be accounted for to the French government.

The securities of all those, which have been prepared for inscription and have not yet been inscribed, shall be delivered to the governments of the respective countries. The accounts of all these debts shall be prepared and determined by a joint commission.

ART. 22. The French government shall remain charged on its part with the reimbursement of all sums paid by the subjects of the

abovementioned countries, into the French funds, whether by way of security, deposit or consignment.\* So also French subjects, servants of the said countries, who have paid sums by way of security, deposit or consignment, into their treasuries respectively, shall be faithfully reimbursed.

ART. 23. The titularies of places held in pledge, who have not the receipt of the revenues, shall be reimbursed with interest until the full payment at Paris by one fifth every year, reckoning from the date of this treaty.

With respect to those who are accountable, this reimbursement shall commence at the farthest six months after the presentation of their accounts, the case of malversation only excepted. A copy of the last account shall be given to the government of their country, to serve it for an index and point of departure.

ART. 24. The judicial deposits and consignations made into the the "caisse d'amortissement" in execution of the law of 28 Nivose year 13 (19th January, 1805) and which belong to inhabitants of countries which France ceases to possess, shall be placed within the term of one year, counting from the exchange of ratifications of the present treaty, in the hands of the authorities of the said countries, excepting such of those deposits and consignations as interest French subjects, in which case they shall remain in the "caisse d'amortissement," not to be restored but upon the liberation resulting from the decisions of competent authorities.

ART. 25. The funds deposited by the communes and public establishments in the "caisse de service,"† and in the "caisse d'amortissement,"‡ or in any other fund of the government, shall be reimbursed to them by fifths from year to year, counting from the date of the present treaty, deducting the advances which shall have been made to them, and saving the regular oppositions§ made upon those funds by the creditors of the said communes, and of the said public establishments.

ART. 26. Dating from the first January, 1814, the French government ceases to be charged with the payment of any pension, civil, military, or ecclesiastical, pay of retreat, or half pay, to any individual who is no longer a French subject.

ART. 27. The national domains purchased for a valuable consideration by French subjects in the former departments of Belgium of the left banks of the Rhine, and Alps out of the limits of ancient France, are and remain guaranteed to the purchasers.

ART. 28. The abolition of the "droits d'aubaine," of "detractation,"|| and others of the same nature in countries which have recip-

\* A sum of money paid into a public office by judicial authority, is called a "consignation."—TRAN.

† Fund of public service. ‡ Sinking fund.

§ A sort of foreign attachment, similar in many respects to our trustee process. "Solde de retraite"—"traitement de réforme." These are military phrases, to which we have no English terms exactly correspondent. "Retraite" signifies as to officers of infantry, "employments in military posts," and as to officers of cavalry—"pensions"—"réforme" signifies a reduction of the troops to a less number by authority of the prince or state which has a right to dismiss them. An officer is said "to have obtained his reform," when the corps to which he belonged having been "reformed," his commission has been preserved to him with a certain allowance, less than that of officers in actual service.

|| "Droits d'aubaine" and "droits de detractation," are certain customs or casual rights payable to the government. [TRAN.]

rocally stipulated such abolition with France, or which had been before united with it, is expressly maintained.

ART. 29. The French government engages to restore obligations, and other securities which shall have been seized in the provinces occupied by the French armies or administrations; and in cases where the restitution cannot be effected, these obligations and securities are to remain null and void.

ART. 30. The sums which shall be due for all works of public utility not yet terminated, or terminated since the 31st December, 1812, upon the Rhine and in the departments detached from France by the present treaty, shall become a charge upon the future possessors of the territory, and shall be liquidated by the commission charged with the liquidation of the debts of the country.

ART. 31. All archives, charts, plans, and documents, whatsoever, belonging to the countries ceded, or concerning their administration, shall be faithfully restored at the same time with the country, or, if that be impossible, within a term not exceeding six months from the restoration of the countries themselves.

This stipulation is applicable to the archives, charts, and plates, which may have been seized in the countries transiently occupied by the different armies.

ART. 32. In the space of two months, all the powers who have been engaged on one side or the other in the present war, shall send plenipotentiaries to Vienna, to regulate in a general congress, the arrangements which are to complete the dispositions of the present treaty.

ART. 33. The present treaty shall be ratified, and the ratifications shall be exchanged within fifteen days, or sooner if possible.

In faith whereof, the respective plenipotentiaries have signed the same, and have affixed thereto the seal of the arms.

Done at Paris, the 30th May, year of grace 1814.

(Signed)

[L. S.]  
[L. S.]  
[L. S.]

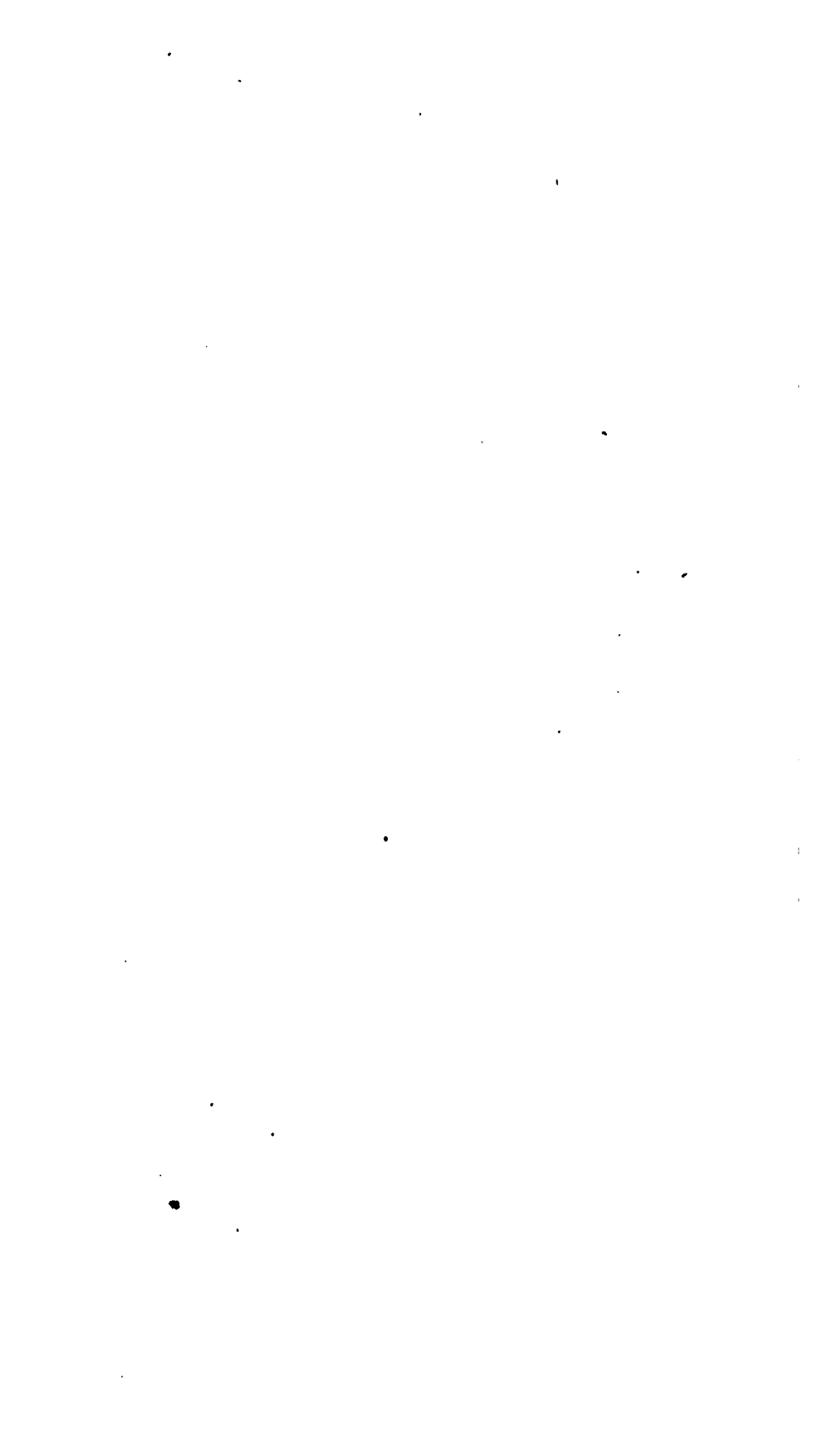
THE PRINCE OF BENEVENTUM.  
THE PRINCE OF METTERNICH.  
J. P. COUNT OF STADION.

#### (ADDITIONAL ARTICLE.)

The high contracting parties, willing to efface all traces of the unhappy events which have afflicted their people, have agreed to annul explicitly the effects of the treaties of 1805 and 1809, so far as they are not already annulled in fact by the present treaty. Agreeably to this determination, his most christian majesty promises that the decrees passed against French subjects, or reputed French, being or having been in the service of his imperial and royal apostolic majesty, shall remain ineffectual, as well as all judgments that may have been rendered in execution of those decrees.

This additional article shall have the same force and effect as if it had been inserted word for word in the treaty patent of this day. It shall be ratified and the ratification exchanged in the same time. In faith whereof, &c. (date and execution the same as the principal treaty above.)

















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